

**WIN****£500****OF FAX  
- IT'S AS  
EASY AS  
ABC**

# COMPUTER *EXPRESS*

**FIRST NEWS • FIRST REVIEWS • BEST BUYS • YOUR WEEKLY GUIDE**

## THIS WEEK

### AMIGA

The 1Meg Amiga you can buy  
for the price of an A500

**PLUS** A superb scanner for  
less than £200

### ATARI

The ST gets its own HyperCard

**PLUS** News of the MIDI  
show of the year

### PC

Soon you'll be able to buy a  
Mac Classic on a card!

### MACINTOSH

Another Mac clone is all set to  
undercut Apple...

# AMSTRAD'S POWER STATION

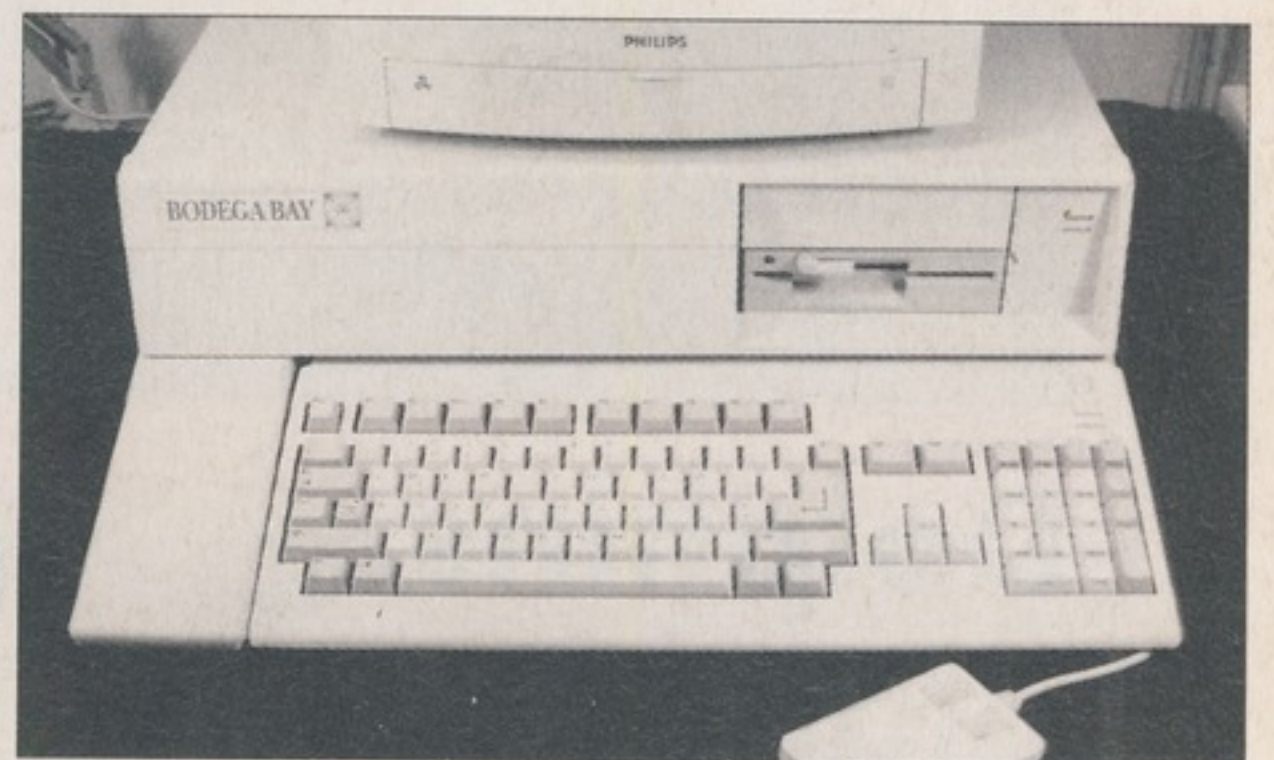
Exclusive details – page 5



**APPLE'S AMAZING NEW PRINTERS**  
For £365 you can now have near-laser quality

## THE BRICK: BODEGA BAY:

What is it? What can it do?  
and why is it  
so exciting?



Is this the only Amiga  
upgrade you'll ever need?

**PLUS**  
**REGULAR**  
**COLUMNS FOR**  
**ARCHIMEDES**  
**SPECTRUM**  
**AMSTRAD CPC**  
**C64**

**& 44 PAGES OF**

**SHOPPING**  
**EXPRESS**

**BARGAINS !!!**

**Future**  
PUBLISHING

Your guarantee of value





# frontend

edited by Colin Campbell

## JAPANESE WAR SIM OUTCRY

In a move which might herald the end of the road for war simulations in Japan, the Japanese Government has clamped down on software publishers using gory military images in games.

The Japanese, who were constitutionally banned from entering the recent Gulf War and received heavy criticism for its role in the crisis, are understandably sensitive about images of war.

The Ministry of International Trade and Industry (MITI) has told games publishers that not only should they avoid using war pictures to sell their games, they should even stop selling the games out right! The thinking behind all this is that the number of war related titles which are being produced for Japanese gamers could encourage war.

Not content with berating the



• War games might be stopped in Japan

game makers, the MITI has also lashed out at computer magazines which advertise and feature the products. Specifically sited was *Icon* magazine which recently ran a feature on a new

Gulf War simulation. *Icon* is published by ASCII, whose president, Kazuhiko Nishi, agreed that the article was in bad taste but pleaded freedom of expression. ■



• I Play 3D Soccer: more footy, but watch out for number 8's studs!

## Soccer to you

What the World Cup didn't do for computer football could be written on the side of a Grimsby FC attendance sheet. Even software house PR people are acquainting themselves with terms like off-side, total football and gooooooooooooooooooooooal! And yes, you guessed it, this is all leading to a story about yet another footy sim.

This one is called *I Play 3D Soccer* and it comes from Simulmondo and is said to have scaled bit-mapped, 3D vector graphics among other whizzy game development terms. Gamers take play in one position and view the game from that angle. Changing position to keep up with the game is also allowed. You can either play the computer or another human. Different levels of difficulty are included as are various match lengths. Of course, it was designed in Italy.

Available this very month for budding Beckenbauer's with C64s, Amigas, STs and PCs. Price is £24.99. ■



## Sony's micro-movie tie in

Like an unstoppable blob from a 1950s B movie, Sony has expanded its software division yet again. The new addition is called Sony Electronic Publishing and will work closely with Columbia Pictures, the company responsible for such films as *Look Who's Talking* and *Ghostbusters*. Columbia Pictures was recently purchased by the Japanese giant.

Sony Software's president, Michael P. Schulhof commented: "This is an exciting opportunity for Sony to focus on new areas in entertainment, education and information. It will provide additional creative opportunities for the Columbia Pictures and Sony Music staffs to work with Sony Electronic Publishing in developing new expressions in entertainment."

"We will also continue to work with our hardware company to support new innovative products that Sony brings to the market. We will develop software on several formats, including CD-based products, interactive multimedia, video games and other optical and magnetic technologies".

This is likely to mean film tie-ins to be released on CD-ROM format especially for Nintendo's Super Famicom computer. Because the tie-in between Columbia Pictures and Sony Electronic Publishing will be so close, they are both based in New York. The chances are that programmers will be on the sets when the film is being made and will launch games at the same time as the film rather than months afterwards. ■

• Now that Sony has bought Ghostbusters maker Columbia Pictures, games programmers will be on the set as the film is made, enabling games to be launched at the same time as the film.

## Crazy computer cuts voters

The chairman of Clitheroe Conservative party is one of several voters who had their names removed from the electoral register in the Ribble Valley by-election by a crazy computer.

Mr Martyn Noble is the unlucky Tory nabob, a random victim of a data processing firm's computer. The firm was supposed to amend the register taken from council computer sheets. It seems that its computer went whacko removing names willy nilly.

Paul Timpson, Deputy officer for the constituency, said: "Unfortunately Electoral law means that there is nothing we can do. People whose names have been omitted from the register will be unable to vote".

Following this computer disaster and the shock Tory defeat, Ribble Valley council is considering whether to sue the unnamed data processing firm. ■

## Dolphins digital deals

Everyone remembers Flipper being a wonderfully helpful creature, but not even that aquatic hero ever helped scientists improve digital communications.

Other dolphins are somewhat more helpful in this way, as scientists studying the way the ocean going mammals communicate have found out.

According to boffins who are trying to understand dolphinese at Rochester University in New York, USA, the codes derived from the way dolphins speak to each other can be used to help computers do the same. They have found that the codes can be used to cut down on the amount of 'cross-talk' in digital communication. This has the potential to increase the number of channels available in all forms of communication which use digital systems. Squeak squeak! ■



## What a touching story

Ever had problems getting information out of a British Rail employee? Do you have to shout or even plea to get the time of the next train to Reading? Well in the near future you may have to touch them as well!

That's if a trial program currently working at Cambridge BR station works out. Sitting on the platform at the university town is the UK's first interactive computer timetable with a touch sensitive screen. At the moment it is linked to a PC in the enquiries office and allows users to plan their routes. The plan is to extend the system so that it can handle timetable information and ticket prices as well.

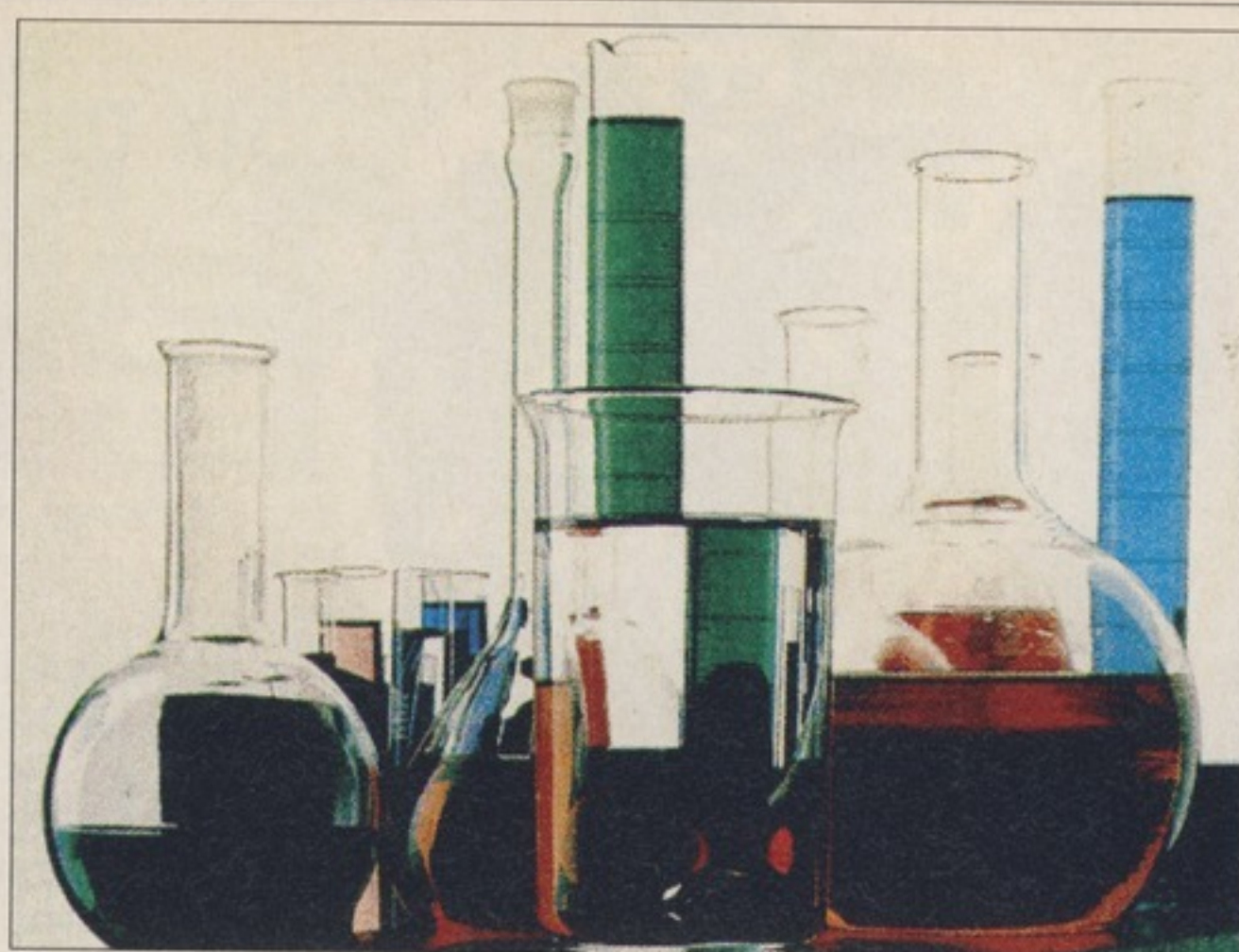
Get in touch with a BR worker for digital information. ■





# CHIP CUTS DOWN ON DRUGS

Scientists in America have developed a tiny 1cm squared chip upon which they have built 1,024 chemicals. Using a system called Very Large Scale Immobilised Polymer Synthesis (VLSIPS) small amounts of chemicals can be layered onto chips and evaluated. Not only does this speed up the process of study, it also means that extremely small amounts of chemicals need to be used to gain the same results as previous test tube and spatular methods.



The process starts by overlaying the chip with chosen chemicals, or 'building blocks'. The next stage is to wash it in another chemical which will react with these blocks. The reactions can be tightly controlled by exposing certain areas of the chip to light from a computer guided laser.

Different areas of the chip are exposed to different amounts of laser-light allowing for many separate compounds to be built-up in the same 1cm squared area. Unlike the old lab

experiments where one scientist would have to spend time studying a single chemical reaction, a computer can be programmed to observe and note all 1,024 reactions at the same time.

This technique can be extended not just to synthesising new drugs for uses in medicine, it can also be used, claim the scientists in California, to create DNA strands, accelerate DNA 'fingerprinting', and even detect invisible micro-organisms for use in blood and food testing. ■

## Russian RAM robbers

Thieves who stole 100,000 RAM chips in Russia could be looking at the death sentence. The Soviet authorities have already started a massive hunt for the crooks who made off with 2.2 million roubles worth of silicon booty.

The raid took place at a factory in Zelenograd in the north west of Moscow.



The danger, as the Soviets see it, is that the thieves will attempt to sell the chips back into the black market at inflated prices. It is well known that the black market in computer goods fluctuates daily and that large sums of money could be made by the perpetrators of Russia's biggest ever computer hardware theft.

Time, however, is of the essence for the brigands. With the police acting quickly the chip nabbers could be looking at 8 to 15 years in prison or even death, if the full powers of the USSR's criminal code article 93 is enforced.

Still on the Russian theme. Subscriptions are now available to Soviet computer mag *Koncern File*. The price for a year's worth of cutting-edge Soviet info is 1,500 roubles – that's about £30 at real rates. For more information, or to order you copy, you should call USSR 0107 812 143 0267 and ask for Boris Vagapov. ■

## CHIPMAKERS BID FOR GLORY

American chip makers were badgering George Bush recently in a bid to raise their commercial profile and moan about European trade tariffs following the Gulf Techno War.

Known as the 'war card' it has been played by the big semiconductor manufacturers for some years now, but has never been so potentially successful since the use of computer guided Patriot missiles.

In a letter to President Bush, the chippers commented: "We are proud of America's men and women in the Gulf and of the role of American technology in this effort exemplified by the Patriot missile. Our industry supplies the American semiconductors which

make these high technology weapons possible".

The corporations claim that less than 10 per cent of their trade is carried out with the military and that commercial business was what drove the technology behind the war effort. In a comment aimed directly at European markets, the chippers noted: "To preserve our ability to make advanced products we need the GATT talks to result in a tariff-free environment for trade in technology and computers".

Whether or not the rest of the Coalition agrees to these claims following the defeat of Saddam, remains to be seen. The chip makers know the honeymoon can only last for a short period in the commercial battlefield. ■



• George Bush: badgered by US semiconductor makers.

## CONTENTS

### REVIEWS

#### Bodega Bay

Is this the best way for you to upgrade your Amiga A500? – page 10

#### Golden Image JS-105 scanner

The best images for your ST or Amiga for less than £200 – page 57

#### Printing made perfect

Just how good are Apple's two new printers? The first review – page 64

### EVERY WEEK

News – pages 4-8

#### Games Week

Hot tips and news, plus *Night Shift* review – page 58



#### Amiga series

When's an Amiga not an Amiga? When it's a Mac, a PC, a Spectrum – page 61

#### ST series

A look at the languages to bring your ST a new lease of life – page 62

#### Competition

Win £500 worth of Fax hardware and software – page 66

### SHOPPING EXPRESS

Letters	13	Whole Wired	
Mac	18	World	30
CPC	19	Circuit City	34
Amiga	20	Tech Tips	46
Archimedes	22	Centrefold	48
C64	23	On-line	50
Spectrum	27	Programming	53
ST	28	PD Column	54



## Latest IBM portable leaked

Details of the latest IBM notebook computer were leaked to the press last week. The newest portable from the Stateside giant is called the PS/2 L40SX.

Weighing in at 8lbs, the machine comes with 2Mb of on-board RAM, a 10-inch monochrome, edge-lit liquid crystal display in VGA mode, and a 60Mb hard disk. Also included is an internal fax and modem, and 3.5-inch floppy drive. The whole thing is powered by a single rechargeable battery.

Six expansion ports are built

in: parallel/Centronics, serial, colour VGA for an desktop monitor, mouse, numeric keyboard and an AT bus expander. In order to preserve battery life there are also plans for 'smart' power down routines.

Along with these details comes news of several price reductions on IBM's PS/2 family of machines in the United States. The cuts range from 5 per cent to as much as 20 per cent. Whether these price changes will affect European IBM PS/2 machines has not yet been announced. ■



• James Pond – onto the Mega Drive in April and into a bionic fish in the winter.

## Six million dollar fish

James Pond, Underwater Agent, is due to undergo two dramatic changes this year. The first comes in the form of a sequel to the original game, provisionally titled *Robocod*, for the ST and Amiga with the possibility of a 16-bit console version to follow.

Ian Saunter from publisher Millenium, said: "James has to go on a land-based mission to thwart the evil Doctor Maybe. To make the entire mission out of water, James has to be bionically altered. Someone had to do it and he volunteered." Whether James is able return to his normal self at the end of the game, "depends on the outcome of the game," says Saunter.

The other change is more immediate, as *James Pond*, the original game, is set for release on the Sega Mega Drive in April, priced at £39.99. It will be the first Mega Drive game both designed and coded in Britain. ■

## The right hook

Boxing sims move into a new dimension of gritty realism with Mindscape's 4-D Sports Boxing.

Modelled and simulated on actual human movement, the animation of the fighters is fluent and realistic. The game also involves management skills since you can create and save a team of up to 10 boxers of your own, setting their heights, how much they weigh and how strong they are, and then you have to train them into mean fighting machines.

4-D Sports Boxing is available now for the PC, retailing at £29.99.

Also just out from Mindscape is *Cardinal of the Kremlin*, a PC game based on a book by Tom Clancy, author of *Hunt for the Red October*. A Cold War adventure game with interactive animated sequences, *Cardinal* retails for £14.99.

Mindscape has also released a C-64 version of the fantasy adventure *Ultima VI* for £24.99. ■

## Cleaner machine

Truly intelligent machines and peripherals have always been one of the aims of computing, and now the world has Headmax – a clever floppy drive cleaner.

Headmax comes in the form of a floppy disk which, the makers Telematic Systems claims, will clean heads on a specially formatted surface and then check to see if any more work needs to be done.

Headmax is said to go further than simply cleaning, it also carries out a diagnosis which checks for head alignment. All the cleaning facilities are accessible from a menu system. ■

SX machine, notebook and colour portable announced

# AMSTRAD'S NEW BUSINESS PCs

As first predicted in *Express* Amstrad has launched three upmarket computers aimed at executives.

A small-footprint SX machine, a notebook and a colour portable were announced by the company at Cebit Hanover on Wednesday 13 March. The Amstrad PC4386SX is just about the smallest computer which can claim to be a desktop. It's about one foot square and under three inches high, yet comes with a 20MHz 386SX processor, 80Mb hard disk, two half-length expansion slots, 4Mb of memory and a 3.5-inch floppy.

To match its small size, it uses a VGA monitor with a tube size of just 10 inches. With mono monitor the machine costs £1,499, and with colour monitor (using a Sony Trinitron tube) it costs £1,699. No other options are offered.

Amstrad says it is aiming the PC4386SX at executives who have little space on their desks and little time to learn to use a computer. The machine is supplied with Windows 3, but Amstrad says this is still too complicated for many executives, so it has written an easy front-end for Windows.

When the machine boots, the Amstrad Program Manager shows icons for applications (including spreadsheet, card index and word processor) which can be selected with the mouse. The joke in Amstrad is that this makes the machine so easy to use that even Alan Sugar can manage it. Experienced users can switch to the full version of



• The Amstrad PC4386SX – just about the smallest computer which can claim to be a desktop.

Windows 3 with a simple key combination. Most of the applications offered by the Amstrad Program Manager come with Windows 3 as standard.

The spreadsheet, however, is the trial version of Microsoft Excel. This has most functions of Excel, but worksheet size is limited. If the full version of Excel is bought by the user, this replaces the trial version. Other application programs which are bought separately, such as a full database or word processor, can link to the appropriate icon.

Amstrad says no compromises have been made to build the machine. It has 64K of cache memory which, combined with the 20MHz processor, makes it over a third faster than most 16MHz 386SX machines.

The 80Mb hard disk is made by Sony and has 19ms access time. A 20MHz 387SX maths processor can be fitted and the memory can be upgraded to 16Mb. The 10-inch Sony Trinitron colour tube has 0.26mm dot pitch and so is able to show the full 640x480 VGA resolution. The built-in display adaptor also has a 800x600 mode which the monitor can display, but this really needs a higher resolution monitor. The display can emulate Hercules, EGA and CGA display cards.

A full-size, 102-key keyboard is provided – the only attempt to reduce the size of this has been to minimise the border around the keyboard. The normal Amstrad mouse is included. Because Amstrad has become

frustrated with the problems associated with MS-DOS version 4 it has decided to bundle version 3.3 in with the machine. At some stage the company will probably switch to MS-DOS 5, once this has been released and proved problem free.

Several companies offer small-footprint SX machines, but none has produced machines as small as the PC4386SX while still retaining two expansion slots. The Carry-I 9000 from Centreprise is smaller, but has only one expansion slot, is slower and uses an external transformer. The SX version of the Carry-I starts at £1,295, but versions roughly comparable with Amstrad's new machines are £150 more expensive.

The Amstrad PC4386SX is made in Korea and should be in the shops by June. Amstrad hopes the machine will become a status symbol among the type of executives who have previously resisted using computers.

Along with the PC4386SX, the Amstrad notebook and colour-screen portable machines are hoped to boost the company's image in the corporate market. Amstrad says that much of the damage done by the 2000 series has already been compensated for by the 3000 series machines and its ALT model portables. The '4' designation of the new machine does not mean the replacement of the 3000 – they are complementary ranges, says Amstrad. ■

● See next week's issue for details on the notebook and colour-screen portable.



'Brick' PC promises desktop power where you want it

# TRUE PERSONAL PORTABILITY

Billed as 'an elegant intruder into the boringly utilitarian world of personal computing', the Brick computer is the size of a ream of copy paper, contains a 20Mhz 386SX processor, 8Mb of RAM, a 212Mb hard disk and weighs just 8lbs.

Developed in the US by Ergo Computing, the machine is described by its British distributor Polaron as 'a tote-able' - a lightweight link between office and home.

The idea behind the Brick is that you keep a keyboard, monitor and power supply at each of your working locations and carry the machine in between. The unit offers all the expansion ports you're likely to need in order to connect up to monitors, printers and keyboards.

For the serious business user, a 2400baud modem is also fitted as standard. The Brick is also capable of driving a 1024 x



768 VGA display with 16 displayable colours. It will also be complimented by a portable mono VGA LCD monitor this summer.

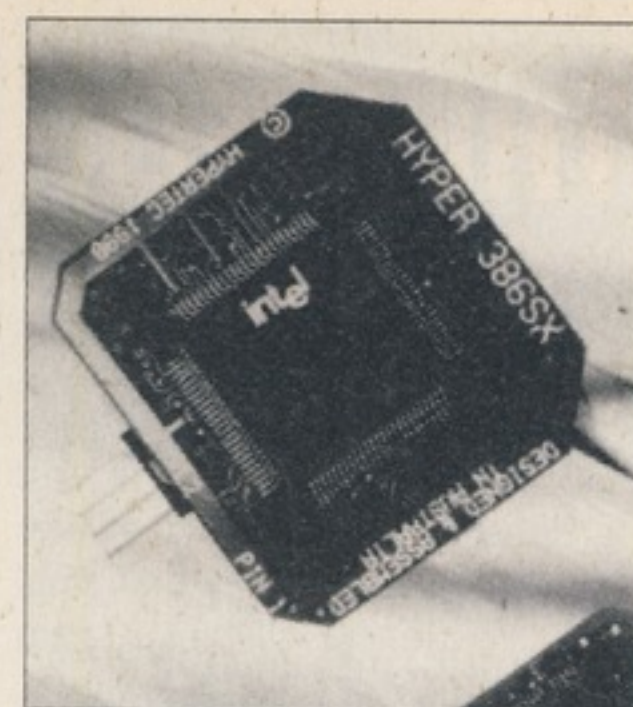
For a limited period Polaron is supplying the Brick with a 44Mb hard drive, 2Mb of RAM, two keyboards, two power supplies, MS DOS 4.01, Windows 3 and Logitech mouse for £2,760.

DAT and CD-ROM connections will also be introduced later this year as will a 486 version. More information from Polaron on 0923 240272.

Watch out for a full review next week. ■



• The Brick computer - a lightweight link between the home and office.



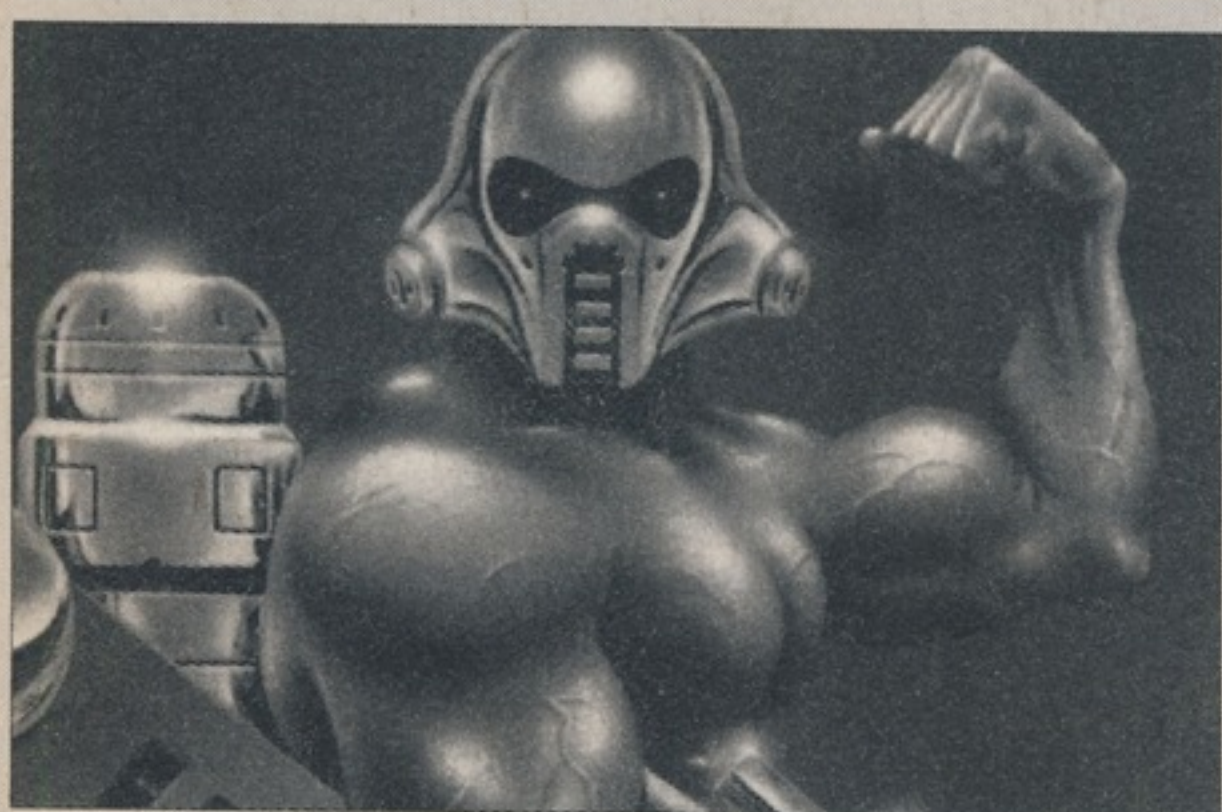
## 386 upgrade on a card

Hyper 386SX is the name of new credit card sized 286 to 386SX upgrade board, recently released by Australian-based Hypertec.

The board fits into the processor slot of an 80286 machine and replaces the existing chip. According to the manufacturers, the board is compatible with both micro channel and standard PC architecture. In order for the widest number of 286 machines to benefit, four configurations have been developed by the company. These are the PLCC, PGA, PLCC and Tower version.

Colin Lillywhite, general manager of Hypertec Europe said: "Once installed the boards give full compatibility with all the latest 80386-based software while retaining full compatibility with existing 80286 software and hardware."

Prices for all configurations are £259. For more information on the products you should call 0672 63936. ■



## Metal mayhem

According to a new game called *Metal Mutant*, the ultimate battle machine of the future will be a metamorphosing mechanoid which can transform at will into one of three forms to ensure the optimum combat capabilities against any enemy.

In the game the metal mutant is sent to the planet Kronox to search out and destroy the evil tyrant Arod-7. On this mission your robot faces over 40 savage foes, using a huge arsenal of weaponry including missiles, axes, torpedoes, battle computers and remote flying mini-robots.

However, the game is more than a mere shoot-'em-up, and involves some intriguing puzzles and humorous moments, "especially a sequence involving a swiss army knife," according to Palace spokesman Richard Hennerley.

It has been written by the french-based company Silmaris, the developer behind *Colorado*. Hennerley reckons that the new game is, "very french in style. The best thing about Silmaris games is that they are always supremely playable and they also look very good."

Due out in May, it will cost £24.99 for the PC, ST and Amiga. ■

## Printer firm pre-empts Apple

As Apple launched its two low-cost printers this week a company in the United States was claiming to have got there first.

GCC Technologies announced the Personal LaserPrinter II with a \$999 price tag, claiming that: "Owners of the new low-cost Macintosh systems can now have the same uncompromising output quality that Macintosh users have come to expect, for a price that's more in line with the cost of their computer."

In a statement which was obviously aimed directly at Apple and its StyleWriter bubblejet

printer, GCC vice president commented: "We are taking the industry lead in meeting the budgetary requirements of small businesses and educational institutions, while still providing high quality, laser printed output."

Apple's own official launches took place on March 11 with the arrival the LaserWriter LS and the StyleWriter bubblejet printers. The LaserWriter LS is a four pages per minute machine, built around a Cannon LBP-LX engine. It comes with a 50 sheet paper tray, serial connection, and 512K of on-board RAM. It comes with TrueType outline fonts

rather than a full PostScript interpreter which saves Apple the cost of a PostScript licence, thus keeping the price down. According to Apple a Mac 2MB Classic with 40Mb hard disk, and LaserWriter LS bundle should cost as little as £1,795.

The StyleWriter bubblejet is aimed firmly at the owners of the Classic who want high quality printing, but can only afford a low-cost Mac. Apple claims that the printer produces laser quality print-out at 360 dots per inch. Again TrueType compatibility is built-in. The StyleWriter is expected to cost sub-£300. ■



## Extreme action

Eight-bit gamers are promised one of the largest sprites ever in Digital Integration's new SF shoot-'em-up, *Extreme*.

In the game you have to battle hordes of aliens, using a huge variety of weapons while trying to locate a self destruct mechanism before it destroys the Earth. Available for the Spectrum, Commodore 64 and Amstrad CPC at £14.95 for the disk version and £9.99 on tape, *Extreme* is in the shops now. ■



## THE WEEK IN VIEW

**Kenny Duval, MD of international couriers, Data Sans Frontier, wonders if The Brick will sell...**

I spend a lot of my time on aircraft and I tell you they're no good to work on. Like airports really. And trains. The problem's not so much working with a laptop, but working while Joe Public asks you about the computer you're using. Seriously though, what use is a portable? Can't the work wait for chrissakes? It's all very well having these wonderful devices but just how long is the working day? So what use is a portable? Quite a lot, I guess, if you're in the fortunate position of owning one, yet not having a job to go to. But as for working on the move or away from the office is concerned - well of course you need one - but it needn't be some £3,000 Toshiba with a crappy LCD screen, need it? All anyone really needs is some small hand-held like the Portfolio with which you can transfer data at a later time to your office machine. Because, let's face it - all you're likely to be using one for is text entry. So anything more than £250 is a waste of space.

So, talking of space or lack of it, what do I think of the Brick? Well I'd like one of course. Maybe it's a bit pricey but I can see the reasoning behind it. 'When you've finished at the office - take your office home!' Great. Why compromise with a laptop when you can have your desktop environment with you anywhere there's a spare monitor?

But why on Earth do you think they called it the Brick? Memorable yes. But still... "I've got a Mac", "Yeah? I gotta Brick!" doesn't really sound right does it? But then there's nowt as strange as folk; particularly if they're American, so I guess it'll catch on sooner or later. Meanwhile, it does look kinda chic too - more at home on the coffee table than the desk. I can just see it now:

"Oh! what's that lovely post-modernist icon there Kenny?" "That's no icon baby, that's my extra-curricula cyber sensation."

So I wish the Brick makers good luck with their venture, but I think I'll wait until the portable VGA monitor comes out. That way I won't ever need to go home. ■

## System 3 goes a bundle

Just when you thought that 8-bit owners never got a first bite of the gaming cherry, System 3 comes along and dispels the myth. C64 owners will be the sole benefactors of the company's first foray into the games compilation market.

The System 3 Premier Collection, features chop-'em-ups like *Last Ninja*, *Last Ninja II*, and *International Karate*. There's a beat-'em-up with *Myth*, a shoot-'em-up *Dominator* and the cutsey *Flimbo's Quest* and will cost £15.99 cassette, £19.99 disk.

System 3 director Mark Cale denies that it is merely clearing out its back catalogue. "This is a collection of the best games we have done over the years and we just want to create a new market." ■

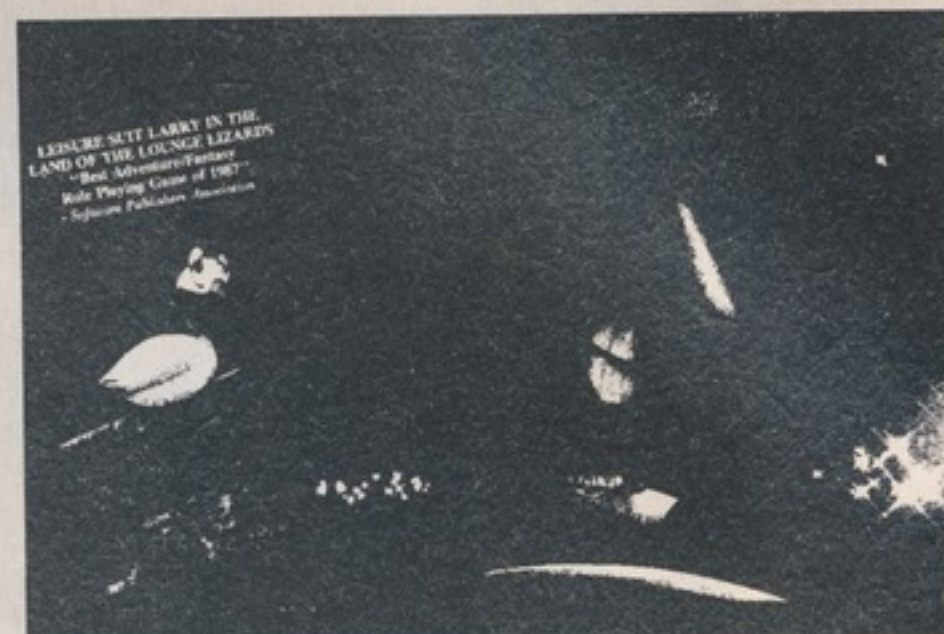
## Say hi Sierra!

Good news for hint-hungry gamers; not only has Sierra On-Line, bought back the rights to its game catalogue from ill-fated Activision, it has now opened a new phone helpline. Sierra is famous in the UK for the antics of *Leisure Suit Larry* in his quest for fulfilment.

The helpline, based on the latest smash idea imported from the States and well used by companies such as Nintendo, will be a 24 hour affair. It offers game hints and technical help, is fully computerised, and you don't even need a modem to access it. All you do need to get up to the minute help is a touchtone telephone - the one with the buttons that go bleep. The hint line number is 0734 304004.

Along with this system, Sierra has launched a new bulletin board which also includes a hintline, along with downloadable demos, an enquiry facility and customer support liaison. It can be accessed with a 300/1200/2400 baud modem and the number is 0734 304227.

However, the company's plans to release a multimedia software package have been shelved.



• Leisure Suit Larry - help will be at hand.

Sources within the company explained that the move came because there is currently no satisfactory industry standard for multimedia systems. They further maintain that multimedia technology is developing so rapidly that any software is in danger of becoming obsolete in a very short time. ■

CBM announces 1Mb Amiga Screen Gems bundle

# ONE MEG ENTRY LEVEL AMIGA

**Both Commodore and Atari have plans to revamp their entry level 16-bit machines in the near future.**

The Amiga 500 will be available with a free half megabyte RAM upgrade, priced at £399 in an offer which will last for a limited period, from now until the end of June.

Commodore is bundling the A500 Screen Gems pack with its A501 RAM expansion unit, which normally retails for £99.

"Things are a little bit slack with the recession, and the expansion to 1Mb is ideal offer to keep sales ticking over and to make sure that the Amiga retains its number one position in the market," reckons Commodore spokesman Andrew Ball.

The move has fuelled specula-

tion that Commodore may decide to make the 1Mb machine its entry level Amiga. However, the company is keen to point out that it will continue to produce the standard A500 while the offer lasts. In order to retain the impetus in a busy market, Ball was keen to point out that "Replacing the 512K machine with a full megabyte model is an option which we would obviously reconsider at a later date."

Not to be outdone in the race for 16-bit home computing supremacy, Atari is also to announce a special 1Mb ST package, aimed at serious computer users rather than games players. Atari's spokesman, Peter Walker, said the company sees Commodore's offer as an



• The Amiga Screen Gems pack. Upgraded with an extra 512K of RAM thrown in for free.

attempt to challenge Atari's own lower entry level ST price point of £299. He told Express: "The price premium is hurting Commodore. The ST is still the ideal entry level machine for the home user, and our new pack-

age will be aimed at positioning the ST much more as a computer and not as a games machine."

For further details of Atari's strategy for the ST in the next year read Express next week. ■

## Transatlantic price parity

**Borland, one of the largest manufacturers of business software in the world, is taking the unprecedented step of pricing products at exchange rate rather than straight pound for dollar.**

A product on sale in the US for \$800 will now cost between £400 and £450 in the UK depending on the exchange rate. This will be welcomed by software buyers more used to a pound for dollar rate on imported

computers products. Current practice in the computer industry is to complain of shipping costs and import tariffs. This has maintained a situation whereby products selling for \$1,000 in the US (£500) would sell for £1,000.

Borland managing director Rikke Helms said: "We need to help our channel partners match up to 1992 by ensuring that our UK pricing is in line with mainland Europe." ■



• Toobin': pencilled in as one of Domark's £7.99 16-bit budget launches.

## And now the budget

Domark is to dive into the pool of 16-bit budget games with a new label entitled Re-spray.

*Hard Drivin'*, *Licence to Kill*, *APB*, and *Toobin'* are the most likely games to be released. A price point of £7.99 has been set for Re-spray titles, and the machines to be targeted are the ST, Amiga and PC. ■



Telecom flat rate means 200 per cent rise

# PRESTEL PRICES HIT HOME USERS

**Charges for Prestel, BT's Viewdata network, are to rise dramatically for residential users from April 1.**

Telecom is to introduce a flat rate charge for both home and business users. This charge is equivalent of the old business charge of £80. For home users this is a rise of £48.

Once on-line, the story gets worse with charges increasing a staggering 200 per cent; from 1p to 3p per minute, during off-peak times. There will be an

additional rise from 7p to 8p per minute during office hours.

Express this week asked for an explanation of the moves from BT Managed Network Services (BTNMS), the section of the company which deals with on-line systems. BT spokesman, Chris Ott, explained: "BT can no longer afford to provide a special discounted tariff for domestic users. After all, the service provided is the same for both the home and commercial user. Frankly, the home users are a

relatively small percentage of the overall user base, and if you're a business user, you will wonder why you have to subsidise these people."

In the light of the changes, a number of companies which use Prestel and are specifically aimed at the home user, such as Kays catalogues, are considering leaving the service.

But one group who may welcome the new charge are subscribers to specialist services like Micronet. From April 1

Micronet's annual subscription, which includes a Prestel subscription, will rise from £80 to £120, but users will be able to access most Prestel areas outside of office hours (8am-6pm) free of on-line time charges.

"Now our subscribers can access the service in the evening, after 6pm, as well as all day Sunday, for the price of a local telephone call. That's the equivalent of halving all their on-line costs," says Micronet editor Paul Needs. ■

## Upgrade your ST database

An upgraded version of the Adimens database, compatible with all versions of the ST operating system and offering a full set of relational features, has just been launched for the Atari ST and TT.

Adimens 3.0 is the latest version of the database which is backed by over 90,000 users. The package includes a 300 page manual and tutorial and an on-line help facility.

Publisher Kuma claims it is simple to use without compromising on power and can import and export data, calculate fields, sort at multi-level, time fields, replace characters, provide graphical controls and prompt via menus.

Facilities exist to search, sort, merge, link and interface with many other programs including KWord 2. Multi-level sorting, date handling, error checking and file handling are completely explained and there are 'soft' editable printer drivers to allow configuration to many printers.

Adimens 3.0 costs £129.95 and is available from Kuma Computers on 0734 844335. ■

## Super graphics card set to start shipping

A 16-bit Super-VGA colour board for PC ATs and compatibles will ship from the beginning of April. The £250 VG-5000 can be configured with either 512K or a full one megabyte of memory on board. Its 1Mb configuration supports graphics modes up to 1024 by 768 pixels.

The board, from DFI, can produce up to 256 colours and supports all of the common PC display modes including Super VGA, VGA, EGA, CGA, MDA and Hercules.

The two models available are the VG-5000A with 512K on board and the VG-5000B with

1Mb on board. The VG-5000 is designed for use within applications with an intensive graphics overhead, such as Computer Aided Design or Windows 3.

To make life easier for users, software video drivers are supplied for Windows, 286 and 386, AutoCAD, Ventura, Framework.

There is monitor support for both interlace and non-interlace monitors and the card is capable of full emulation of the IBM 8514/A graphics board. 16-bit CPU to video data translation is possible and support is offered to font editing.

For further information contact DFI on 081 461 2322. ■

## Business guide on Compact Disc



The European Business Guide is the latest piece of CD-ROM-based information from Philips.

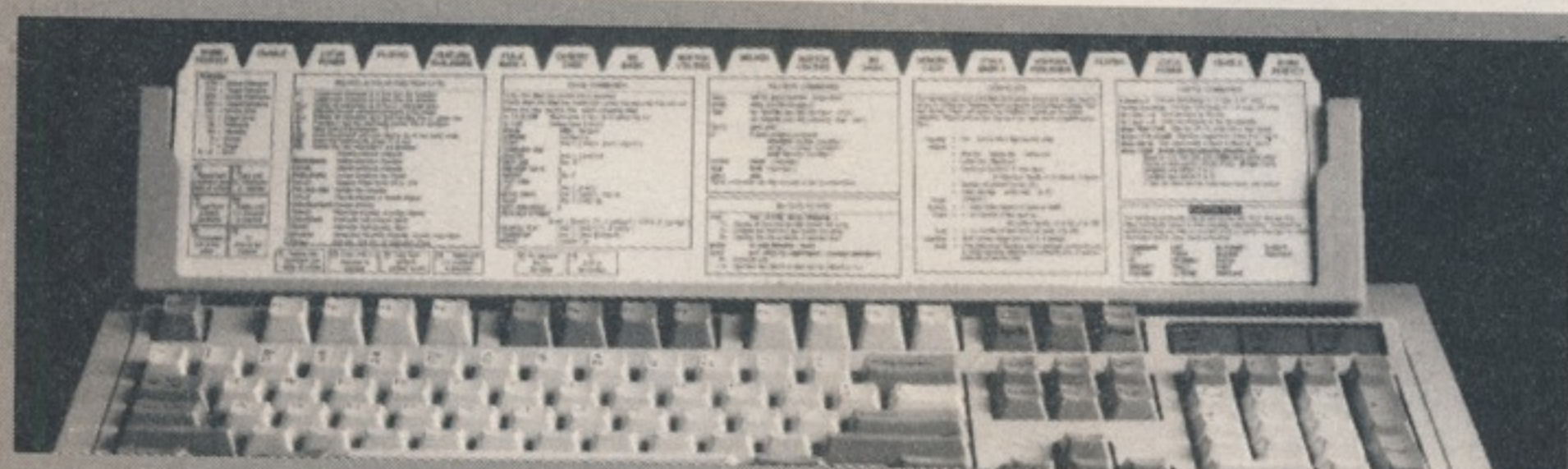
The guide contains byte after byte of information of use to the busy Euro-business person. Details are available on travel information such as flight and train timetables, foreign currency, visa regulations, and tax-free data. Also included is leisure information for those important business lunches and power breakfasts, theatres, and even golf courses.

Information relating to all of the EEC states is included on the disc alongside 19 other countries.

According to Philips: "A straightforward user interface makes the disc easy to access and no instructions are necessary." Users can source information by keywords or by the contents.

The guide costs £130 with regular six monthly upgrades, or a straight one-off disc offer with no upgrades will cost £95.

For more information call 0306 75777. ■



## Commanding guide to keys

Keyboard Guidecards, a new memory aide for PC users, are now available. The cards are compatible with Microsoft Word 5.5, Windows 3, Norton V5 and Wordstar Professional.

The guidecards are compatible with all keyboard types and provide an immediate source of reference to the commands and keystrokes needed to take the keyboard short cuts used by the software.

The complexity of the software application in use

determines the amount of data needed on the card. This means that while most programs will be happy with a single Guidecard, some require two.

A holder, complete with an MS-DOS card, is supplied and can be attached to any keyboard or can stand freely on the desk.

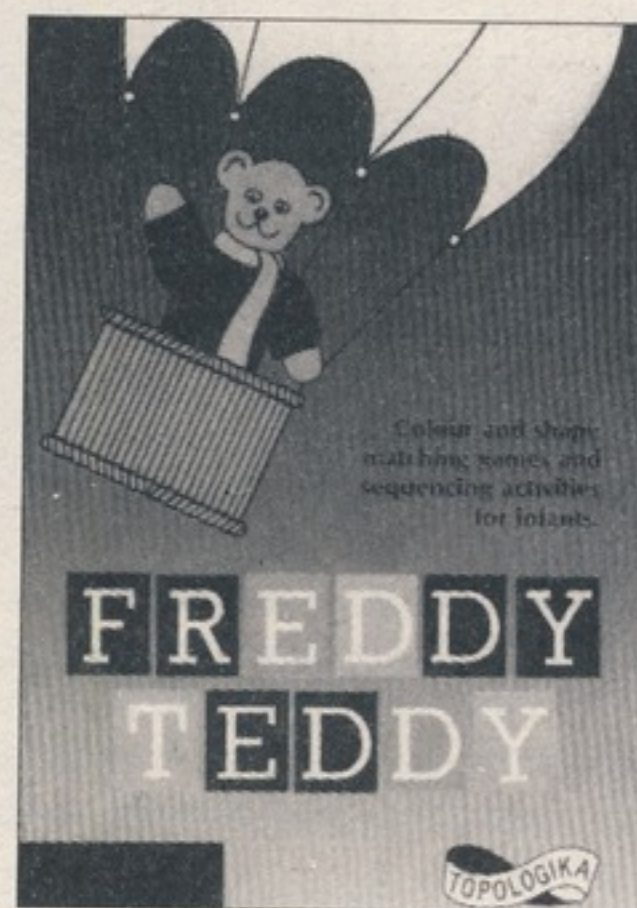
Guidecards cost £7.99 for single cards and £12.99 for doubles. For more information call to CDL on 0483 756813. ■

## Logikal learning

Young children can have fun while they learn with the latest releases from software house, Topologika.

Among the titles in the company's new catalogue is *Freddy Teddy's Adventure* for the Acorn Archimedes and A3000 which helps develop counting skills and includes a colour book in the package.

*Astro*, for the BBC, Compact, Archimedes, A3000 and Nimbus concentrates on all things astronomical. Both *Astro* and *Freddy Teddy's Adventure* cost £19.95. For the more mathematically



minded there is the Giant Killer Support Disk (£15.22) designed to accompany the original maths program and provide more difficult puzzles in graphical form.

Contact Topologika on 0733 244682. ■



As Apple launches its new low-cost printers, Express asks...

# IS THIS THE CLASSIC BUSINESS PACKAGE ?

**O**ctober 1990 saw the arrival of the machines which UK computer users had been waiting to see; the low cost Apple Macintoshes. The Mac Classic, the Mac LC and the Mac IIsi hit the UK and world markets amidst a heap of media hype and public expectation. The 'oohing' and 'aahing' went on until well after Christmas, with those people who had never seen a Mac being carried along by the wave of enthusiasm created by both the press and the folk who had used the older machines at work.

Certainly the Classic at £1,030, with 20Mb hard drive, 2Mb of RAM and a single 1.44Mb SuperDrive floppy is an ideal wordsmith's tool. It has been called a kind of extreme high-end PCW, mainly because of its user-friendliness. But unlike the PCW bundle, the Classic, LC and IIsi came without any way of outputting the text so lovingly created. It is untrue to say that there was no way at all of printing out. Apple LaserWriters, in the form of the IINT and the NTX, come in at £3,565 and £4,140 respectively. Lower down the scale comes the Personal LaserWriter range starting at £1,564 for the SC, with the NT in at £3,565. All of these machines, however, make the £1,030 price tag on the Mac Classic look a little pointless. The only real low cost option prior to the arrival of the new printers was the ImageWriter II. This dot-matrix machine came with the Apple name and company support but not with the quality of printed output which the computer and its new users demanded.

Apple, it seemed, had lost the impetus which the Classic and its low cost compatriots had so readily instigated. People were caught in two minds about whether to go for a 386 running Windows or move Macwards. Why was this?

Why were people prepared to use a PC with a DMP (dot matrix printer) but not a Mac? This was a major hurdle which needed to be cleared before the Mac bundle could really take the home-users world by storm.

## BARRIER RELIEF

The main reason is personal rather than financial. A strange psychological barrier had to be overcome in order for a Mac bundle to make it big outside the professional environment.

The barrier did not, and does not,

involve the idea that the Mac is a poor machine. Far from it - its quality of manufacture is undoubted. The notion that it is too technical for the home user is also fallacious; the friendly front end, devoid of command lines, root directories and complex syntax is almost legendary in its ease of use. Even the Apple bugbear of high price had been blown away, at least as far as the computer was concerned.

## A ROLLER WITH DICE

The problem lay in the notion that, for some inexplicable reason, you cannot use Macintosh computers with dot matrix printers. This idea has less credence in the United States where the Mac is a normal, everyday computer available at college stores and computer shops. However the UK user still views the idea of a Mac with a loud, slow DMP as being akin to running a Rolls Royce car with plastic covers on the seats and furry dice in the window - it doesn't actually affect the

why did Apple take so long before making the ideal bundle of low cost Mac and cheap, high quality laser and bubble-jet printer available?

In some camps this was seen as a deliberate ploy. Get the machines out there and then really make the money out of the peripherals. Other people thought that Apple Computer was in fact carrying out a straightforward piece of marketing; make sure that the cheap Macs sold before committing yourself to a undercutting current peripheral stock. A third, and probably more important reason, was the

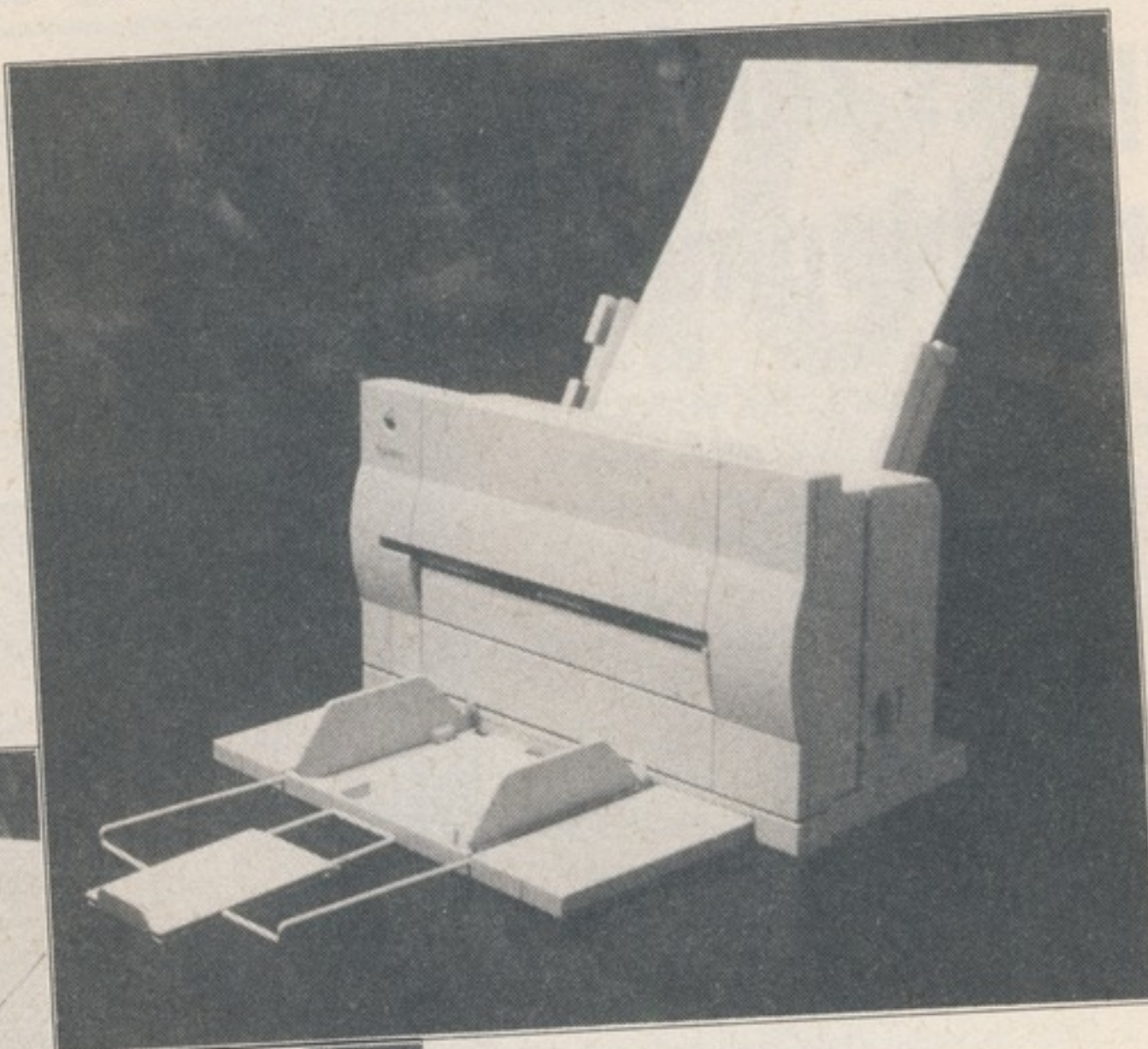
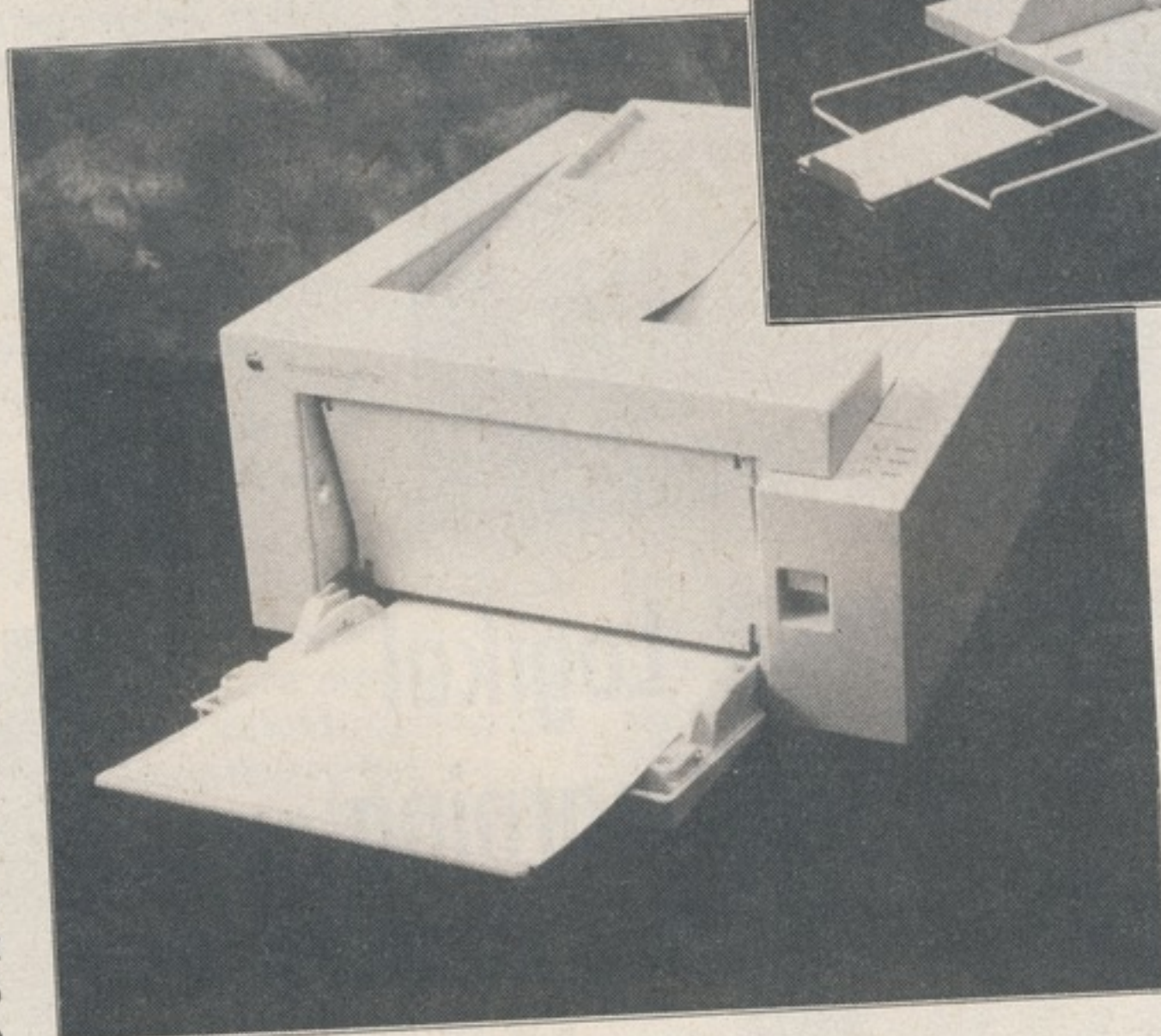
being passed on to the end-user. There were two ways around this problem; either Apple bought PostScript lock, stock and barrel in order to level the cost overheads, or it helped develop its own typographical standard. The first option was a non-starter, PostScript is too popular across many machine bases. The second option, however, presented an excellent upside for low cost printers which were aimed at business and home users with no requirements to output PostScript compatible graphics such as EPS (Encapsulated PostScript) files.

Using TrueType allowed the printing engine to be taken from the printer itself - PostScript printers require PostScript interpreters and that's what Apple had been paying through the nose for. Secondly, Apple was not paying out to third parties (PostScript again). This point allows for lower costs and cheaper prices to the end-user. Bearing in mind that font prices between the two systems differ only slightly and that most people who buy a Classic will be happy with the four bundled faces, and you have a problem solved both for Apple and the end-user.

A final point in the race to produce a decent and affordable Mac printer is the looming presence of System 7, the upgraded Mac operating system. By developing new standards, and consequently retaining a hold on the peripherals market, Macintosh has made sure that it, and its tied developers, can do with System 7 as they wish. The market will be lead by the company rather than the other way around.

## JOB DONE?

So, two major problems stood in the way of the affordable Macintosh bundle: psychological and financial. Both were intertwined and both have been solved quite neatly with the new printers. The psychological barrier has been shattered by the fact that Apple-badged high-quality, non-dot matrix printers are about to become widely available. The financial problem has been overcome by the fact that Apple has cut its own overheads by moving away from PostScript and into TrueType. All that remains to be seen is whether the Windows threat (Windows will also make use of TrueType) can be overcome, and just how many units Apple will move in the next year. ■



• Above: The StyleWriter, the bubble jet printer which gives low-cost high quality printing to the mass of Mac users.

• Pictured left is the ImageWriter. Low cost laser quality which really will give 386PCs, running Windows 3 a run for their money.

performance, it just seems wrong.

While many UK users are quite prepared to go for DMP output, and after all 24-pin dot matrix printers do offer a reasonable quality of output, as long as the computer driving the printer is a PC. Macs go with laser printers, or bubble jets. A popular consciousness was in place which seemed to have consigned the Macintosh to a high-end ghetto. Apple only had one option.

The only way out was to meet the challenge head on and bring the public the machines which it appeared to want. So

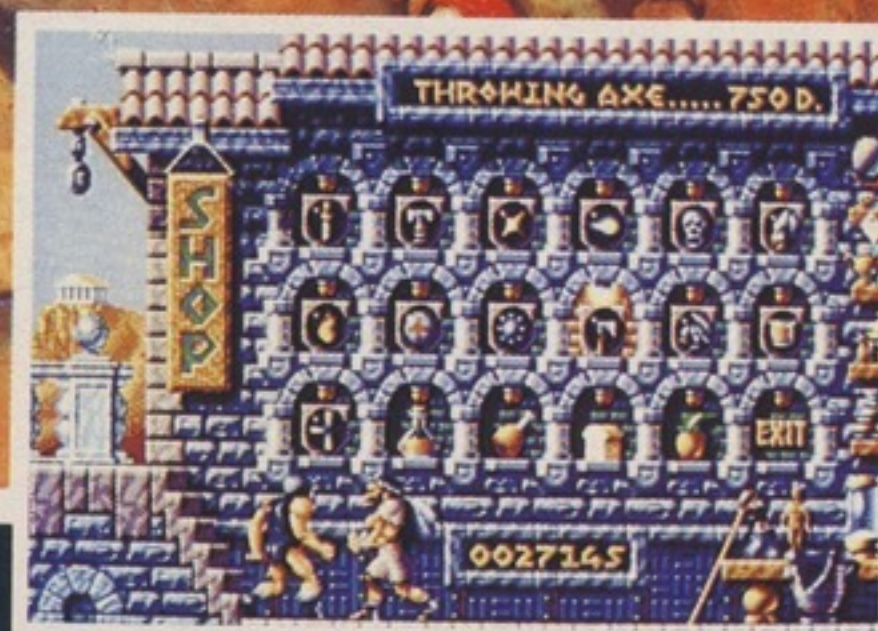
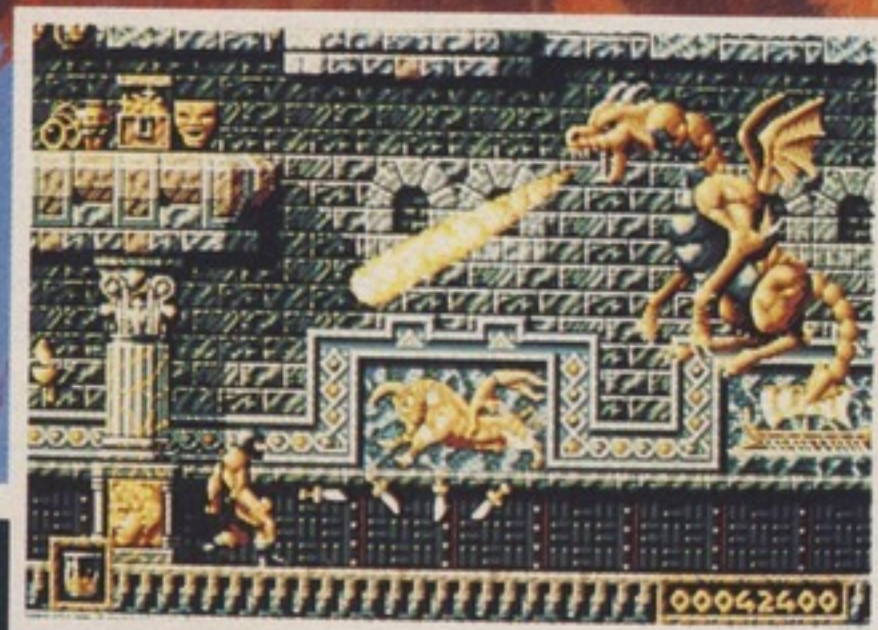
PostScript question.

The two new printers - the Personal LaserWriter LS, a laser printer which will cost around £920, and the StyleWriter, Apple's first venture into bubblejet technology, to be available for £345 or less - make use of the new 'standard' of TrueType. The underlying story to this being nearly as interesting as the fact that it enables users to output high-quality text without the need for PostScript. Apple had been paying out large sums of money on every PostScript compatible printer it sold. This cost was obviously



# G O D S

## THE BITMAP BROTHERS



ST  
version  
shown

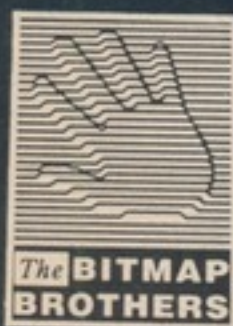
Are you bored of games that pose no real challenge? Mindless adversaries that can't fight back? Dumb nasties who just ask to be slaughtered? **GODS is a complete departure!**

Featuring a revolutionary system of artificial intelligence, your opponents react to your actions and interact with the environment. Perhaps guile will achieve more than brute strength! Your cunning, as well as skill with the fearsome array of weapons at your disposal, are needed equally to overcome the enemy...

Award-winning Bitmap graphics and music by Nation 12 make this their most exciting game ever...

*Have you got what it takes to be a GOD?*

Amiga, ST, PC



G1, Metropolitan Wharf, Wapping Wall, London E1 9SS  
© 1991 The Bitmap Brothers. Published by Renegade





# AN EXOTIC EXPANSION

**B**odega Bay sounds like an exotic location to hold a press conference, but my hopes were dashed when I found out that it was a product, not a place. Its manual describes it as a modular expansion console for the Amiga 500 and it offers A500 owners an opportunity to upgrade to a 1500/2000 like specification by connecting to the expansion slot and providing a card cage and expansion bay.

Bodega Bay does away with the need to power your Amiga from the somewhat quirky Commodore power supply and its own internal 200 watt lump takes over that job. This way, the power switch turns on the A500 too. With an optional extra cable, the monitor can be powered making the entire system a single switch turn on operation.

The Bodega Bay comes equipped with a mains cable, power cable and manual. The manual has a simple illustrated approach to installation and use, offering the experienced user a quick walk through while the less confident get a detailed description.

To connect the Amiga to the Bodega Bay is child's play with the Amiga sliding sideways under the Bodega Bay and connecting via the expansion port. Once in place the Amiga and Bodega Bay make a solid looking 'complete PC' style console.

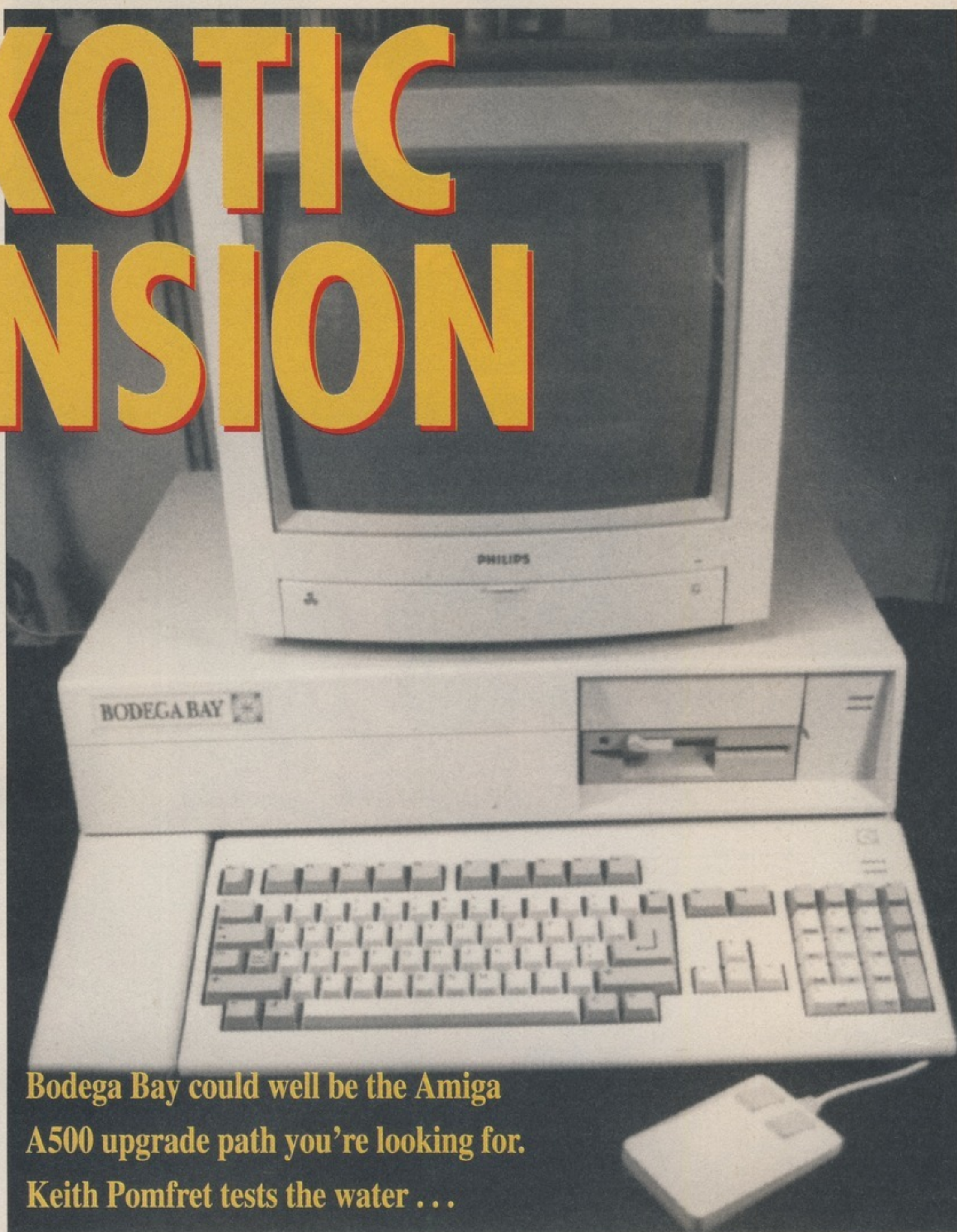
The connection via the A500's expansion slot means that no more A500 specific add ons can be connected at the side, but that small drawback is more than made up for in the PC and B2000 expansion capabilities that the card cage in Bodega offers.

It's possible to plug the Bodega Bay straight into the A500 and go, but most people will want it for expansion possibilities so it's probably a good idea to have a dig around inside and add any immediate expansion you are planning.

We had a collection of boards to try, so off came the lid. The manual offered sound advice not to open things up with the power on or indeed power up before the physical installation of all planned devices had been done. Four cross headed screws at the rear secured the cover and with them removed, the large cream plastic cover slid off forward. This revealed the internal cage with its mounting places for cards and additional drives.

## FACTS

Bodega Bay is available from Amiga Centre, Scotland. At the time of going to press, it hadn't fixed a firm price for it as Bodega Bay is only now arriving from California. A rough estimate from Amiga Centre was that it would cost around £350 for the base unit. With an XT bridgeboard and a colour monitor, that would bring the price to slightly under £1,000 making it on a par with the Commodore Amiga 1500 for price and an option to trading in a 500 to upgrade. Amiga Centre Scotland is on 031 557 4242.



**Bodega Bay could well be the Amiga A500 upgrade path you're looking for.**  
**Keith Pomfret tests the water...**

The mounting bays are for 5.25-inch drives and one was already fitted in the review machine. It is possible to fit 3.5-inch drives with optional adapter plates. A bay is included to hold a 3.5-inch hard drive and card slots for Amiga and PC cards are included. There are four 100-pin Amiga expansion slots and three of those can have optional PC XT/AT 98-pin slots.

A section in the manual explains which slots take priority and offers advice as to the optimum way to install various forms of expansion. For those adding a PC Bridgeboard in order to take advantage of PC compatibility, there is a section explaining its position in relation to other Amiga cards and how incompatibility may cause malfunction if things aren't in the right order.

Further instructions on the addition of floppy drives and various controller cards complete the installation section.

All of the cards that we were able to try worked with the exception of a PC Fax/Modem/Answering machine card, but then again that's difficult to get running on some PCs.

So far, the boards that we know will work are XT bridgeboards, AT bridgeboards, hard disk controller card (HC2+), Harlequin framebuffer, AMAX 2+, serial cards and RAM expansions.

In theory, any card that follows specific operating system and programming guidelines should work, but there may be problems with PC cards that take hardware short cuts.

The review sample that we tested was very much a pre-production model for the UK market and although the general build quality was good, there were a few irritating things that we felt needed addressing. These were simple things such as a cable was a tad (15mm) too short. Amiga Centre provided us with a list of things that were earmarked for correction on the production UK versions and its list matched ours perfectly. We will be grabbing one of the first production models to check that these quirks have been remedied, though!

In general, Bodega Bay was easy to use, the instructions were clear and concise and the procedure for installation and expansion were more than adequate. The design is a bit lumpy and once in place, the big cream box with an A500 poking its nose out from underneath was reminiscent of a card punch console or a teleprinter. It's a love or hate design. It makes a mockery of the 'small footprint' trend with demands for large amounts of desk space. If you need to rack mount your kit then this isn't the box for you. But if you're happy with a big sturdy expansion system that will take a 40 pound monitor then Bodega Bay is for you.

It did all that US manufacturer California Access claimed and more. Running with cards inside, the space available offered adequate convection and there were none of the overheating problems that have been experienced with teeny PCs. If expansion is your path and you want to retain your A500, Bodega Bay is an option that must be considered. ■



# The New 1 Meg Amiga From Digicom

Following The Huge Success Of Our F-19 Digistar Offer, We At Digicom Are Proud To Present The Meanest Pack Available For The Amiga A500. This Unbeatable Deal Now Includes Commodore's Screengems Pack PLUS the A501 RAM/Clock Upgrade Plus Our Very Own Exclusive New Arcade Smash Hits Pack And The Chart Topping 1 Megabyte Version Of Kick Off 2!

**Includes:** Amiga A500 Computer 512K Keyboard PLUS A501 512K RAM/Clock Expansion Fitted To Give 1 Meg Memory Total  
 ● Built-in 1 megabyte DS/DD 3.5" Disk Drive ● Multi-Tasking Operating System ● Latest Kickstart And Workbench 1.3 ● Superb 4096 Colour Graphics ● Speech Synthesis ● 4 Channel Digital Stereo Sound ● Notepad Word Processor ● Commodore Mouse Plus 3 Owners Manuals ● Amiga Basic Program Language ● T.V Modulator And All Connecting Leads And Cables

Plus This Great Software : Shadow Of The Beast 2 ● Days Of Thunder ● Back To The Future 2 ● NightBreed ● Deluxe Paint 2

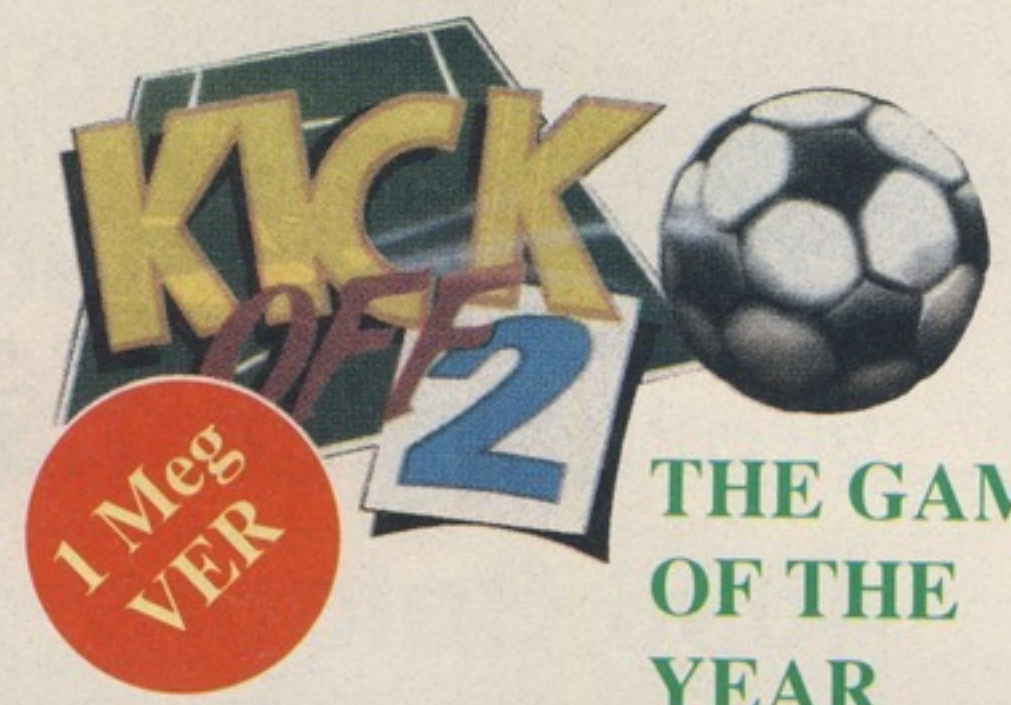
## Plus Exclusively to Digicom

Bring The Atmosphere Of The Arcade To Your Home With The Arcade Smash Hits Pack From Sega, Incorporating Five Of The Most Exciting Games Around !



**Thunder Blade** **Alien Syndrome** **Out Run** **Shinobi** **After Burner**

**Plus :** A High Quality Microswitched Joystick, Amiga Tailored Dustcover, 10 Blank Disks And Disk Storage Box, Mouse Mat And.....



**Notice :** The Memory Upgrade Supplied With This Offer Is The Official Commodore A501 Ram Expansion Worth £99.00 ANY Alternative Expansion Unit Will Invalidate Your Warranty

**Complete Package Price Only £399.00**

**1 Meg Amiga Screengems Pack** (As detailed in the above offer) Plus The Superb Philips CM8833Mk2 Multipurpose Colour/Stereo Monitor  
**£628.00**  
 Free Amiga/8833 Lead And Monitor Dust Cover

**1 Meg Amiga Screengems Pack** (As detailed in the above offer) PLUS Philips CM8833Mk2 (Colour/Stereo Monitor) Star LC200 9 Pin (Colour Printer)  
**£828.00**  
 Free Printer Dust Cover & Lead

### HOW TO ORDER

**By Phone:**  
 Call Our Credit Card Order Line And Quote Your Credit Card Details To Our Helpful Sales Staff. We Accept ACCESS, EUROCARD, VISA, MASTERCARD, AMEX, BARCLAYS CONNECT, SWITCH, and LOMBARD CREDITCHARGE.

**By Mail:**  
 Simply Write Down Your Order And Post It To Us With A Personal Cheque, Postal Order, Bankers Draft Or Building Society Cheque Made Payable To "Digicom Computer Services Ltd".  
 (Personal Cheques Require Time To Clear Before Despatch)

**All Prices Include VAT And FREE Delivery**

Next Day Courier Delivery At £5.00 Extra

## The New Amiga 1500 Is Here !

The Ultimate Personal Home Computer Designed To Cover Every Computing Requirement, From Business To Leisure And From Design To Education

**Includes :** 1500 CPU with One Megabyte of Memory :

Separate Keyboard : Additional Disk Drive  
 Optional IBM Compatability  
 9 Expansion Slots Plus This Great Software  
**THE WORKS PLATINUM EDITION**

**DELUXE PAINT 3**  
**THEIR FINEST HOUR**  
**BATTLE CHESS**  
**SIMCITY+**  
**TERRAIN EDITION**  
**POPULOUS SPECIAL**



**1500 System With Commodore 1084SD Colour Monitor And 52MB Autoboot Hard Drive Only £1249.00**

**1500 System Only £679.00**  
**1500 System With Philips 8833Mk11 £909.00**

**Phone Our 24 Hour Hot Line (0908) 378008**  
 8 Lines Open  
 Fax (0908) 379700  
 All Major Credit Cards Accepted

Visit Our Showroom Open Mon-Sat 9.00am-5.30pm

# DIGICOM

36-37 Wharfside, Fenny Stratford, Watling Street  
 Milton Keynes MK2 2AZ

Wharfside Is Opposite The Bridge Pub On The A5 Watling Street  
 Prices And Specifications Are Subject To Change Without Notice. E&OE

### ☆ Digicom Offers You ☆

- ☆ Free Catalogue (With All Orders)
- ☆ Regular Newsletters And Special Offers
- ☆ 12 Month Guarantee On All Product
- ☆ 30 day Replacement Of Faulty Product
- ☆ Technical Helpline
- ☆ All Product Tested Before Despatch
- ☆ Price Or Product Match



**DIGICOM EXCLUSIVE!**

Commodore Amiga A500  
**PRICE CRASH**  
**£299.00**

inc VAT & Delivery

- ★ Includes:
- ★ Amiga A500 512K Keyboard
- ★ Built-in 3.5 DS/DD 1 Megabyte Disk Drive
- ★ Latest UK spec Kickstart 1.3 Machine
- ★ Workbench 1.3, Extras 1.3, Amiga Basic
- ★ 4096 Colours
- ★ Digital Stereo Sound
- ★ Speech Synthesiser
- ★ Notepad Word Processor
- ★ Mouse
- ★ TV Modulator
- ★ ...and all leads to connect to your TV!

**LIMITED STOCKS! - ORDER EARLY**

**Credit Card Orderline Telephone (0908) 378008**

All major credit cards accepted!

**DIGICOM**

Unit 36-37, Wharfside,  
Fenny Stratford,  
Milton Keynes,  
MK2 2AZ

Callers welcome at our showroom - Wharfside is opposite the Bridge Pub on the A5 Watling Street at Fenny Stratford



## CONTENTS

MACINTOSH.....	18	CIRCUIT CITY.....	34
CPC.....	19	WHOLE WIRED WORLD.....	30
AMIGA.....	20	TECH TIPS.....	36
ARCHIMEDES.....	22	CENTREFOLD.....	48
C64.....	23	EXPRESS ON-LINE.....	50
SPECTRUM.....	27	PROGRAMMING.....	53
ST.....	28	THE PD COLUMN.....	54

# SHOPPING EXPRESS

THE VALUE-PACKED GUIDE TO YOUR MACHINE AND MORE



## EXPRESS MAIL

Write and tell H F-W what you think about almost anything under the Sun! Reach him at: *Express Mail*, 30 Monmouth Street, Bath BA1 2BW. Sorry, no personal replies, even with an SAE and remember, only **SOME** letters win a fiver!

With your host  
**Haydn** – the man  
with the fivers  
to give away

### ■ DIPswitch romances

As to why DIPswitches are put in the most inaccessible places – it's a tradition going back to the days when only businesses could afford printers. Putting DIP switches in secret little places means that an engineer had to be called in every time the printer was to be used with a different computer. No business would be too chuffed to receive a large bill from a computer maintenance firm if it was observed that the engineer came in and merely flicked a switch to solve the problem, so DIP switches were originally built into printers in such a way as to give the impression that the problem was complex – and deserving of a whacking great bill.

It also probably impressed young female office workers of the 'Philadelphia Cheese' variety and no doubt did the engineers a lot of good romance-wise too.

However, one day an engineer revealed all (to one of the Philly girls, presumably? – H F-W) He was of course instantly blackballed throughout the industry, and was last heard of putting labels on 3.5-inch disks and putting them into wallets. After that revelation, printer manufacturers put DIP switches mainly on the outside of machines, but still observe tradition by making them inaccessible in the hope that the old mystique – and business – will return.

Why else should they do this when a software solution that could auto-configure printers to a particular machine is perfectly possible?

D Griffith, *Shepherds Bush*

### ■ Amiga defender

Strange how people seem to get more vitriolic about the Amiga as its gets more and more successful, isn't it? John Goldsmith's letter in *Express* 121 was a typical instance.

1) True, the Workbench does take over a minute to set itself up, but to be

more accurate, the Workbench is mostly in ROM and loads in under a second, typically. The rest of the time is used by the system setup routines which are fully user-customisable. Read my book John (plug plug) if you need an example of Workbench loading in just a few seconds.

Workbench disks are slow to open because the system has to load and display dozens of different icon images.

2) AmigaBASIC is truly awful – you're quite right there. But there are plenty of other ones: GFA 3 and AMOS for instance. Atari's BASICs for the 400/800 and ST, and Commodore's 64 BASIC to name but three others are all as weak as AmigaBASIC.

3) The odd one out was BBC BASIC. Any programmer will tell you, it's much easier to reference cartesian Y from the top of the screen – inverting it only slows things down.

4) What awful flickering mess? Surely you don't mean cracked and packed pirate copies?

5) Whadaya want? One minute you complain about flickering screens, and the next you want 'game loading' information. Strewh!

6) The Amiga doesn't crash – the software does. If your PD games hit the ROMs then it'll crash just as quick as an ST would, given the same treatment.

Mark Smiddy, *Orion Computer Services, Cleveland*

Yup – I was right. I thought that letter from Mr Goldsmith would rattle the bars of a few cages...

H F-W

### ■ 'Apalled' of Bootle

I am apalled at your reply to A Sharp's letter (*Express* 121). You agreed that the 'sampled soundtracks, snatches of music and film clips are all the property of the copyright holder', but the fact that no-one has been prosecuted for taking these sam-

ples and clips does not, by any means make it a legal practice.

Then you go on to say that the material in such demos is not pirated for commercial gain and probably serves to promote the original work. Does this mean that I can now buy software, CDs and LPs, record part of them and freely distribute to friends? Of course not.

You seem to condone this thin end of the piracy wedge. If you think I have an axe to grind, you're right – I have. Since buying my Amiga I have refused offers of hundreds of pirated disks for free from fellow Amiga owners. Being unemployed, it is a great temptation to justify taking such free disks. Don't get me wrong – I'm not 'Mr Honesty', but I am concerned that many software programmers will get sick of people ripping off their work, and leave the Amiga to program consoles in the future.

Your comments surprised me. Is it now the case that *Express* condemns only large-scale piracy and lets these 'mini-pirates' off the hook? It makes me wonder if my personal anti-piracy stance is worth the trouble.

C Robinson, *Bootle, Merseyside*

I'd like you to go back to your copy of *Express* 121 and read that letter and my reply to it once more, Mr R. It may be my fault, or it may be yours – but you seem to have got the wrong end of the stick.

I was trying to point out the difference between pirating games wholesale or taping an entire album, and taking short samples from a copyright work. If you accept a pirate copy of a game or a cassette that contains a complete LP, then you are depriving the copyright holder of the income due from a sale, and doing real damage to the artist who created the work.

If, however, you get to see a short film clip, listen to a few sampled bars of a song from an album – or get a one or

two level demo from a game, then you are likely to have your appetite whetted for the full product – such extracts can act as samplers, and may lead to increased sales of the complete work.

Which might be why the massive corporations that own the copyright in films, videos and music don't bother to take action against the people who sample their works and use them in demos. In effect, they are getting free advertising. If bootleg albums or complete copies of films were being circulated on videos, then you can be sure that the copyright holders would want to come down hard on the pirates. And as I said, some cunning software publishers have, in the past, deliberately leaked significant chunks of their games onto the pirate circuit to take advantage of this free advertising.

Your personal stance against piracy is admirable. It is harder to turn down the offer of 'free' games when you are on a low income and there are plenty of very well paid people who have libraries of pirated software. If more people took the approach to life that you do, software prices might well be lower.

As it is, piracy is forcing some software houses to think very seriously about the future of magnetic media – indeed I heard that one software house plans to complete all its current projects for disk and tape and then move over to cartridges, abandoning cassette and disk software for ever. This is not good news for the average computer owner – but then the average computer owner only has himself (or herself) to blame...

H F-W

### ■ Money man

I still can't believe that G Smith thinks that all the letters you print are paid for. Generally speaking, if a magazine doesn't say 'every letter printed here wins a fiver',



then this isn't the case. *Express* isn't the creator of the 'Star Letter' concept, and it hasn't caused confusion in other mags.

If Mr Smith wants to get paid for writing, perhaps he should send in a serious piece of journalism to your magazine (if you accept freelance work from anyone). I have never heard of a letters page being a cheap way of filling pages – and I think you were very sporting in awarding a fiver to this person after he was so rude about you personally and about the magazine which I have read since issue one. I've had two letters printed before, and have never sent you an invoice!

Tim Gowen, Diss, Norfolk

Well thanks for coming out so firmly on my side on the Great Payment Debate, Tim. I'm sure you'll understand that if I were to award you a fiver I could be accused of bribery!

Anyway, the position should now be well and truly clear – I only give fivers away when I feel a letter merits a few quid. By the way, we certainly do accept and pay for freelance articles – but generally only from a pool of established writers.

Any readers with an idea for an article should send a synopsis to our editor, preferably with some samples of their writing and a daytime telephone number – and there are more than fivers on offer!

H F-W

## ■ Technically speaking

In *Express* 119 you published two erroneous 'facts' about CPU bus widths. The first is Tim Smith's Centrefold contention that a 16-bit data bus allows you to address 64Kb of data. In fact, you can address all the data you like with a 16-bit data bus, provided your address bus is wide enough – it is the number of bits on the address bus that governs how much memory may be directly accessed. 8088/8086 PCs have a 20-bit address bus, while 80286 ATs have a 24-bit bus. I guess Tim doesn't know there is a difference between address and data buses, but since he's so clever in um... some other

way, he will no doubt be forgiven.

The second mistake is in the chip comparison article and chart on page 62 and 63, where the 8086 is listed as having an external data bus of eight bits. It is the 8088 which has only eight data lines to the outside world – the 8086 actually has 16, though it may often be the case that only eight are used, since the standard IBM PC bus itself only supports eight.

The notable exceptions to this are the Amstrad PCs, which (in direct contradiction to Stuart Anderton's statement) use all 16 of the 8086 data lines, and have 16-bit data flow between the CPU and the main on-board memory, allowing word-size data to be moved in one read/write cycle instead of two. Unfortunately, the limitations of the IBM PC expansion bus prevent this being extended to plug in cards.

Iolo Davidson, Tetbury, Gloucs

Cheers Iolo. Once again you contribute to the knowledge of *Express* readers (and writers). Ever thought of getting in touch with the Ed and arranging to do so on a more regular (and more financially rewarding) basis?

H F-W

## ■ Caveat prize winner

Flicking through an old edition of *Express* (Issue 103) I came across 'The Week In View' by Robert Stallibrass of Active Consoles.

The article weighs up the pros and cons of buying from a specialist shop or a high street electrical outlet. One would assume from the article that Mr Stallibrass favours the specialist shop which is akin to his own firm, but are they all they are cracked up to be?

I won a competition (expect cries of 'whinging bastard, what does he want for nothing') run by *Express* and Active for which the prize was a Powercade arcade cabinet, a monitor and an *R-Type* PCB. As *R-Type* is my all-time fave arcade game, you can imagine my delight when I opened the letter on 13 October 1990 to find that I'd won. I contacted Active a few days later, and after congratulating me, they

told me that my prize would arrive that week. After re-arranging the furniture in the house to accommodate the prize, I sat and waited.

Needless to say, it didn't arrive. After four more promises – causing me a lot of earache from my wife who had to stay at home all day on the off-chance that it arrived – it turned up on 9 November. I rushed home and there it was: the Powercade, but alas no monitor and no PCB for the *R-Type* game.

I rang Active and was promised them the following week – and they finally arrived on 21 December. What a great Christmas present! I left work early and rushed home to set it up. Got it all ready, only to find that the lead from the cabinet won't fit the monitor – rush to Tandy for a connector, told 'no chance'.

I rang Active after the Christmas break to find they know I have the wrong monitor and are trying to find a replacement. 'It's all about expertise', says Mr S in his article.

I've left out details of all the fruitless calls I made to Active, including trying to talk to Mr Stallibrass – and I know that Tim Smith has been ringing them on my behalf too. It's now four-and-a-half months since I was originally promised the prize, and I seem to be banging my head against the proverbial brick wall. My next step seems to be to employ a solicitor.

To finish off, I'll quote Mr S again: "The moral of the story is 'Buyer Beware'"  
Graeme Haddelsey, Osset, W Yorks

A veritable tale of woe Mr H – and one in which our illustrious publisher no less has already intervened.

The first part of the delay seems to have been caused by the fact that *R-Type* PCBs suddenly became very scarce, and Active says it was taken by surprise when the manufacturer of the monitor changed specs suddenly.

But the fact remains that the prize should have been ready and waiting for the winner when it was offered – I'll add my apologies and try and work some personal magic.

H F-W

## MAIL SHORTS



### ■ MCIOTVMTYC

It's the 'My Computer Is On TV More Than Your Computer' debate again. Did anybody

notice the Archimedes on

*The Mary Whitehouse Experience* weeks and weeks ago in their sketch making fun of role-playing games? I'd know those ventilation slits anywhere. There was another Arc on the *Antenna* programme on BBC2 about fractal geometry, and there are loads of Archimedes in *Capital City*. And the one used during the Royal Institution Christmas Lectures.

Chris Eason, Leamington Spa

You collect a fiver for your multiple mention. And that's the way 'Seen On Screen' works from now on – money only paid out for new and multiple mentions!

H F-W

### ■ Seeking Tracy

You mentioned a mouse add-on called Tracy by a company called Sidewise some weeks ago, and I have been searching for it ever since but to no avail. Could you help by giving me an address from which it can be obtained?

G Smith, Dartford, Kent

Only too pleased to oblige. Write to Sidewise at PO Box 4 Totnes, Devon TQ9 7EN.

H F-W

### ■ Joystick shopper

Looking for another joystick, I came across one in the Argos Catalogue – page 329 Item 10 Cat No 535/3934 Euromax @ £9.99

This has now been substituted for Flashfire, New model Superspeedy at the same price. It is robust, has everything, why pay more?

L O Rigby-Jones, Worthing, Sussex

Quite. But I don't really understand why you are telling me this...

H F-W

### ■ Archie PD appeal

If anyone knows of or runs an Archimedes PD library, could they get in touch with me?

Andrew Clarke, 1 Bluebell Meadows, Newton Aycliffe, Co Durham DL5 7LY

Drop a line to Eureka software – Chris Eason, C/o Mrs D Butcher, Freeman Hall, The Trinity School, Guys Cliffe Avenue, Leamington Spa CV32 6NB. They're not a PD library, but have some interesting schoolwork-related software for sale at a good price.

H F-W

## ■ Stoke-on-Trent man attempts world's most untidy living room

I am sending this photo in the hope that you can settle an argument that has been raging in our house for some months as to the arrangement of my computers in the front room.

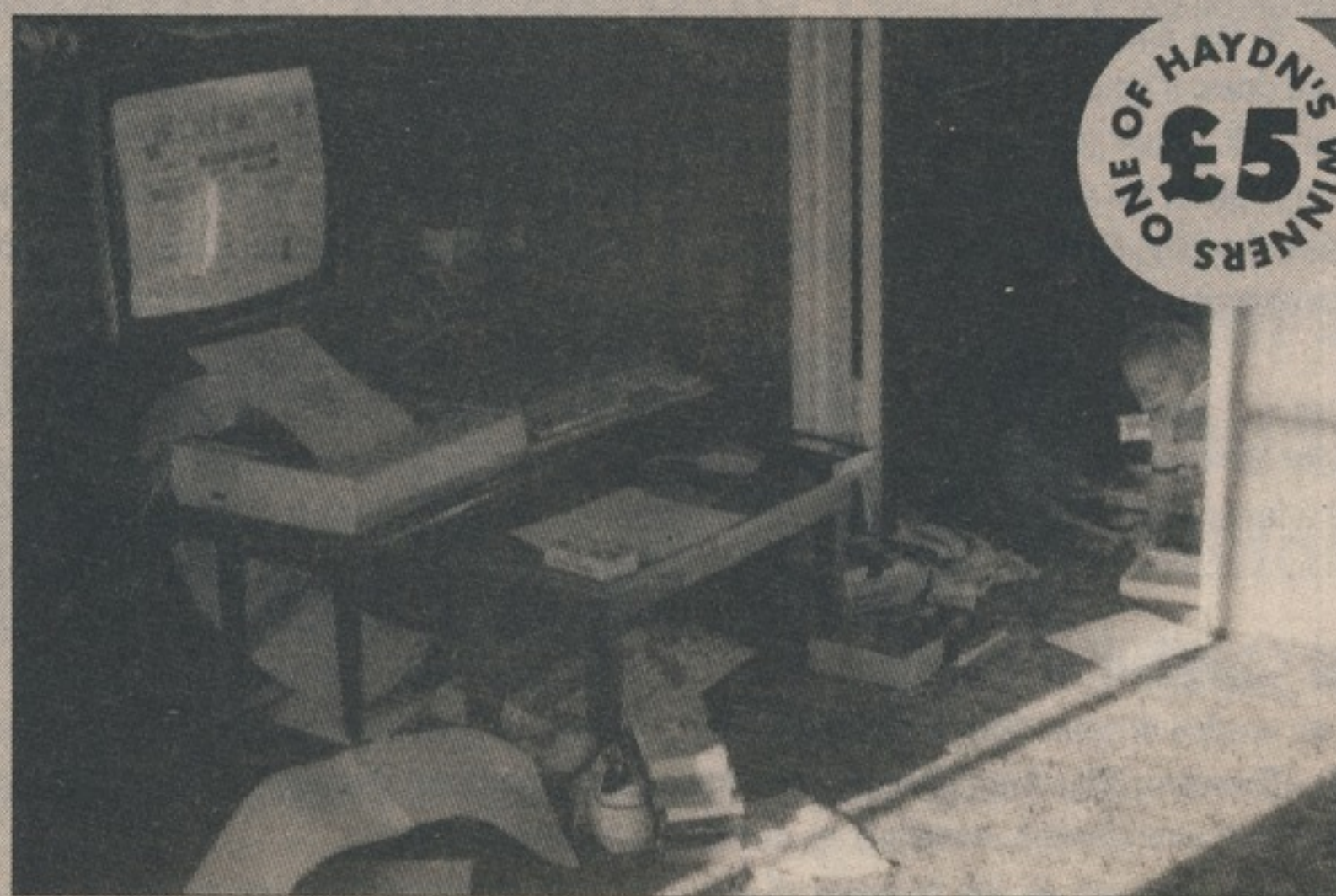
My wife says they are untidy and I say it is a perfectly normal arrangement. Can you confirm this for me? Besides, we have now run out of coffee tables.

J Preston, Tunstall, Stoke-on-Trent

I think your wife has a very valid point, so I'm going to send her a fiver. Close scrutiny of your pic reveals that it would be impossible to shut the door!

You seem to have a normal set-up, similar to computer owners worldwide, but not in the front room.

H F-W



• Serious coffee table crisis in the Preston household...



# Ladbroke Computing International



## Hard Drives

- ☐ Autoparking 3.5" mechanisms.
- ☐ Full metal case suitable as monitor stand.
- ☐ On/off button and DMA device selector mounted on front.
- ☐ Integral PSU.
- ☐ DMA Out port for daisy chaining.
- ☐ Megadrive controller, low power, controls up to 8 SCSI drives.
- ☐ Compatible with emulators such as Spectre GCR, AT Once.
- ☐ Up to 255 partitions, up to 1 Gigabyte in size.
- ☐ Selection of Accessories/boot partition with boot editor.
- ☐ Includes backup software and Midistudio demo software.

### Price Breakthrough

We can now offer a range of hard drives all built around cached Quantum mechanisms with an 11ms average access time for the incredible prices shown below. QUANTUM mechanisms are used which are of the highest quality. These Quantum mechanisms are built to American military standard and include a 2 year manufacturers warranty (from date of manufacture) offering the best possible protection for your data.

52Mb 11ms (Quantum drive) £ 419.99

105Mb 11ms (Quantum drive) £ 529.99

Add £20 for HD with ICD board (includes clock). Phone for other capacities.



## 3.5" Drives

CSA 354: ST 3.5" drive. £69.99

CAX 354: Amiga 3.5" drive. £64.99

ST Internal drive upgrade. £64.99

The Cumana ST internal drive requires the ST's case to be modified (full instructions supplied). The external ST drive is a high quality, slim, quiet drive which comes complete with integral PSU and so does not draw power from the ST which could cause problems. Add £3 P&P for drives.



## Quality Disks

Quantity	Bulk Sony or Kao		Sony Brand Boxed in 10's
	Loose	Boxed	
10	£ 5.99	£ 6.99 <small>includes x10 Ryford black plastic box</small>	£ 9.49
40	£ 20.99	£ 26.99 <small>includes x40 Lockable, disc box</small>	£ 34.99
100	£ 48.99	£ 57.99 <small>includes x100 Lockable, disc box</small>	£ 84.99
150	£ 66.99	£ 83.99 <small>includes x150 Posso Stackable disc box</small>	£ 125.99

All disks carry unconditional guarantee. Add 80p P&P for each 10 disks or £3.00 for 100 and above.

## ST & Amiga Packs

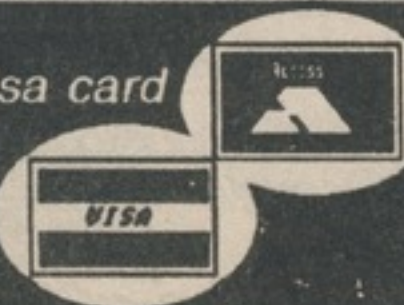
520STFM Discovery Pack	£279.99	520STE Turbo Pack	£349.99
1Mb STE Turbo Pack	£369.99	2Mb STE Turbo Pack	£409.99
4Mb STE Turbo Pack	£479.99	(ST) Tenstar pack, M/mat, J/stick	£30
Amiga 500 Screen Gem's Pack	£369.99	(Am) Astra pack, M/mat, J/stick	£30

## A4 Scanner Monitors

- ☐ 200 Dpi scanner.
  - ☐ 16 grey scales or Black/White mode.
  - ☐ High quality thermal image printer.
  - ☐ Acts as photocopier.
  - ☐ ST & Amiga £449.99
  - ☐ PC version £479.99.
  - ☐ Requires 1Mb RAM.
- IMQ scanner still available at an incredible £49.99**
- Atari SM124 Mono £ 109.99  
Philips 8833MkII Colour £ 249.99  
Philips 15" TV £ 269.99  
Includes: FST, remote control, Scart input (giving near monitor quality display), 60 tuner presets, sleep timer and Fastext.  
All displays come with Scart cable. Deduct £10 from Monitors only, if bought with computer.

### How to Pay

You can phone your Access or Visa card details or send a cheque/postal orders made payable to Ladbroke Computing International. Please allow sufficient clearance time for cheques.



### Please Read: Terms of Sale.

We are the longest established Atari dealer in the UK. We have developed an extensive customer service policy which means that we test all Hardware/Software prior to despatch to ensure that goods arrive in working order. Although our prices are not always the cheapest we do endeavour to offer consistently good service and backup. This isn't just our opinion, we were voted "Best Dealer 1989" by the readers of ST World magazine, not for "the number of boxes shifted", but for quality service.

On Site Warranty: We have recently extended our backup programme by offering on site warranty as an option on all ST's. We already offer this service on All Star printers and Philips monitors listed.

All prices are correct at copy date 27/02/91 and are subject to change without prior notice. All prices are accurate while stocks last. Phone for up to date prices. All prices include VAT, there are no hidden extras (WYSIWYG). Delivery (in Mainland UK) is free, on orders over £100 (add £10 for next day courier delivery. All prices available on Mail Order, Shop prices may differ.

## Midistudio Master

**Midistudio Master**  
**£129.99**

**Midistudio Junior still available £49.99**  
**Phone for upgrades**

- ☐ 100 tracks storage, 20 tracks playing simultaneously.
- ☐ 240 ppq resolution.
- ☐ Realtime mix-down via mouse.
- ☐ Realtime scrolling arrange window.
- ☐ 11 levels of quantise, including humanise.
- ☐ Pipeline/Module system.
- ☐ Loop record.
- ☐ Midi soft keys.
- ☐ Works on 1040STF(MXE)

## ST FAX

Use your ST to send faxes. Fully featured modem accesses bulletin boards/commercial systems.

- ☐ Fully Hayes compatible.
- ☐ Auto dial/answer
- ☐ 300/1200/2400 Baud
- ☐ Mix text and graphics.
- ☐ Cannot receive faxes. Not BT approved.

**£200**

## PC's

AT 12Mhz Desktop	£ 449.99
AT 16Mhz Desktop	£ 499.99
AT 16Mhz VGA Mini tower	£ 849.99
40Mb	£ 699.99
386SX Mini tower	£ 1194.50
386-25 VGA Mini tower	£ 99.99
Mono Monitor	£ 299.99
VGA Colour Monitor	£ 99.99
<b>PC Emulators for ST</b>	
PC Speed, XT Emulator	£ 199.99
AT Speed, AT Emulator	£ 199.99
AT Once, AT Emulator	£ 199.99

## New Prices Upgrades

512K STFM, 16 or 4 chip kit	£ 39.99	512K ST board+chips, kit	£ 59.99
2Mb ST board+chips, kit	£ 129.99	4Mb ST boards+chips, fitted	£ 279.99
TOS 1.4 kit (6 or 2 ROM's)	£ 39.99	STFM Blitter chip, kit	£ 39.99
512K SIMM/SIPP (STE)	£ 24.99	2Mb SIMM/SIPP (STE)	£ 79.99
Amiga 512K no clock	£ 26.99	Amiga 512K with clock	£ 29.99
Exchange STFM PSU	£ 59.99	ROM switch + TOS 1.4	£ 49.99

Please check the configuration of your machine with our staff before ordering any upgrade. All upgrade/repairs carried out by our service centre carry a 90 days parts and labour guarantee. Our service centre can repair/upgrade any ST, Amiga. Please phone for repair/upgrade charges. Please add £150 P&P for upgrades priced under £100.

## Spectre GCR

"Power of the Mac, without the price."

- ☐ Reads, writes and formats Mac disks.
- ☐ Supports Hard drive and second floppy.
- ☐ Compatible with STE, Stacy.
- ☐ 30% bigger screen area than Mac Plus.
- ☐ Runs 20% faster than Mac Plus.

**Spectre GCR V3**  
**£290**  
**Phone for 128K ROM's**

**We are the consistently longest serving supplier**

## star Printers

All dot matrix printers come complete with IBM Centronics cable. All Star printers include 12 months on site warranty, UK Mainland only.

Star LC-10	140/36cps	£ 169.99	Citizen 120D+	120cps	£ 139.99
Star LC-24/10		£ 209.99	Citizen Swift	192/64cps	£ 319.99
Star LC-200 colour printer		£ 219.99	Citizen swift Colour upgrade		£ 39.99
Star LC24-200 222cps		£ 249.99	Citizen Swift 9		£ 209.99
Star LC24-200 colour printer		£ 319.99	64K buffer/3 input switcher		£ 29.99
Star Laser 8DB 2Mb RAM		£ 1849.99	256K buffer/3 input switcher		£ 49.99

**(0772) 203166 Fax 561071**

Shop & Mail order premises: 33 Ormskirk Road, Preston, Lancashire, PR1 2QP Open Monday to Saturday 9:00am to 5:00pm. Dealer enquiries welcome. Ladbroke Computing International is a trading name of Walton Marketing Limited. All trade marks recognised.



## PRINTER RIBBONS

All of our ribbons are GENUINE manufacturer ribbons - NO copies!

1 x LC10 Black Ribbon	£3.50
5 x LC10 Black Ribbons	£16.95
1 x LC10 Colour Ribbon	£5.20
5 x LC10 Colour Ribbons	£24.95
1 x LC24/10 Ribbon	£4.75
5 x LC24/10 Ribbons	£22.00
1 x LC200 Mono Ribbon	£5.00
5 x LC200 Mono Ribbons	£25.00
1 x LC200 Colour Ribbon	£10.00
5 x LC200 Colour Ribbons	£50.00
1 x LC24-200 Mono Long Life	£7.50
5 x LC24-200 Mono Long Life	£37.50
1 x LC24-200 Colour Ribbon	£11.00
5 x LC24-200 Colour Ribbons	£55.00
Swift 24 Mono Ribbons (each)	£5.00
Swift 24 Colour Ribbons (each)	£13.95
1 x Panasonic KXP1124 Ribbon	£8.95
5 x Panasonic KXP1124 Ribbons	£39.99

## ATARI LYNX LOWEST PRICES!

Lynx Games Machine (with free California Games)	£117.50
Blue Lightning	£19.50
Chips Challenge	£19.95
Electrocop	£19.95
Gates of Zendocon	£19.95
Xenophobe	£19.95
Robo Squash	£19.95
Road Blasters	£19.50
Rampage	£19.95
Ms Pacman	£19.95
Shanghai	£19.95
Zarlor Mercenary	£19.95
Gauntlet 3	£22.00
Rygar	£19.95
Slime World	£19.95
Klax	£19.50
Paperboy	£19.95

## ATARI ST / AMIGA STEREO COLOUR MONITOR

The Philips 8833 MkII is the perfect colour monitor for all ST and Amiga owners. With its high quality picture and stereo sound it really makes the STE or Amiga perform to it's full

12 months on-site warranty FREE!

# £ 245.00

including vat and delivery

Supplied with 1 cable free of charge. Options are :-  
Atari STE Stereo cable or Atari STFM cable or Amiga stereo cable

## PRINTERS

All of our printers come with a parallel cable to suit Atari ST, Amiga and all standard PC etc (other cables available at extra cost - ask for details). All printers carry a full 12 months warranty. We only sell genuine UK stock - we do not offer inferior "grey imports".

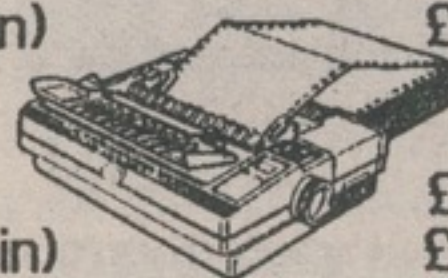
### Star

### FREE CABLE WITH ALL PRINTERS

Star LC10 Mono (9-pin)	£155.00
Star LC200 Colour (9-pin)	£230.00
Star LC24-10 Mono (24-pin)	£210.00
Star LC24-15 Mono 15" (24-pin)	£399.00
Star LC24-200 Mono (24-pin)	£265.00
Star LC24-200 Colour (24-pin)	£295.00
Star XB24-10 Mono (24-pin)	£469.00
Star XB24-15 Mono 15" (24-pin)	£599.00

### Panasonic

Panasonic KXP1124 (24-pin)	£249.00
Panasonic KXP1624 15" (24-pin)	£389.00
Hewlett Packard Deskjet 500	£499.00
Citizen 124D (24-pin) + s/feed	£225.00
Citizen Swift 24 (24-pin)	£289.00
Canon BJ10E Portable Bubble Jet	£339.00



### PRINTER ACCESSORIES

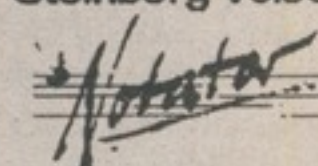
Swift 24 Colour Kit	£34.95	Deskjet - FX85 Mod	£59.00
Star XB Colour Kit	£34.95	Deskjet - Ink Cart	£17.95

## ATARI ST ACCESSORIES

SM124 Mono Monitor	£99.99
Megafile 30 Hard Disk	£439.95
Megafile 60 Hard Disk	£599.95
Roctec 1MB External Drive	£69.00
Golden Image Handy Scanner	£195.00
Forget-Me-Clock II Card	£24.95
ST Monitor Switch Box	£14.95
STE Stereo scart lead	£12.99
STFM standard scart lead	£12.95
STE MKII 8833 lead	£12.99
STFM MKII 8833 lead	£9.99
Joystick/Mouse extension lead	£4.75
Replacement Mouse lead	£3.75
Standard Parallel Lead	£5.95
Mouse Mat	£3.50
2 x coiled Midi leads	£6.95
14 Pin Din Plug (ST disk drive)	£2.25
14 Pin Din Socket (ST disk drive)	£2.95
13 Pin Din Plug (ST monitor)	£1.95

### ST MIDI SOFTWARE

Sequencer One (ST)	£69.95
Dr.T Tiger Cub (ST)	£59.00
C-Lab Notator V3.0	R.I.N.G.
C-Lab Notator Alpha V1.0	R.I.N.G.
C-Lab Creator V3.0	R.I.N.G.
C-Lab Aura *NEW*	R.I.N.G.
Steinberg Cubase V2.0	R.I.N.G.
Steinberg Cubase *LOW PRICE*	R.I.N.G.
Steinberg Voice Editors	R.I.N.G.



### ST SOFTWARE PACKS

DISCOVERY SOFTWARE	£19.95
Contents : STOS, First Basic, NeoChrome 4 games	
TURBO SOFTWARE (STE ONLY)	£24.99
Contents : STOS, First Basic, Hyper Paint II, Music Maker II 8 games	
TENSTAR PACK SOFTWARE	£29.95
Contents : Asterix, Chess Player 2150, Driving Force, Live Let Die, Onslaught, Pipemania, Rick Dangerous, Rock n Roll, Squeek Trivial Pursuit II	
BUSINESS PACK SOFTWARE	£59.99
Contents : K-Word 2, K-Spell, K-Spread, K-Data and Metacomco Basic	

## Atari Portfolio

SPECIAL CLEARANCE SALE EXCLUSIVE TO N.C.E READERS - VERY LIMITED STOCKS

Atari Portfolio Pocket PC	£169.00
Portfolio 128K Memory Card	£119.99
Portfolio 64K Memory Card	£84.95
Portfolio 32K Memory Card	£44.99
Portfolio Mains Power Adaptor	£11.99
Portfolio Parallel Interface	£38.00
Portfolio Serial Interface	£54.95
Portfolio Super Memory Expander	£165.00
Portfolio Card Drive	£59.99
Finance Card software	£44.99
Utilities Card software	£44.99
PC Application software	£44.99

## BLANK DISKS

All of our blank disks are guaranteed and supplied with labels. Our 3.5" unbranded disks are of the highest quality double sided media. All Sony Branded disks are boxed and supplied with labels. All disk prices include vat and delivery. Ring for prices on larger quantities.

QUANTITY	10	20	30	50	100
UNBRANDED 3.5" DS/DD	5.99	10.99	15.99	25.99	44.99
SONY BRANDED 3.5" 2DD	9.50	18.50	26.50	42.50	80.50
UNBRANDED 3.5" HD	14.95	27.95	39.95	59.95	114.95
SONY BRANDED 3.5" HDD	26.50	50.50	74.50	115.50	227.50
UNBRANDED 5.25" 360K	3.25	6.25	9.25	14.95	28.25
SONY BRANDED 5.25" 2D	7.95	14.95	21.95	34.95	68.95
SONY BRANDED 5.25" HDD	12.99	23.99	34.99	54.99	99.99

## ACCESSORIES

### MOUSE MATS

High quality neoprene soft mouse mats.  
**£ 3.50**

### PRINTER STANDS

2 piece plastic printer stand with paper space underneath. (fits virtually any printer)  
**£9.50**

### DISK BOXES

Lockable boxes :  
3.5" 10 cap. - £1.95  
3.5" 40 cap. - £4.95  
3.5" 80 cap. - £8.95  
5.25" 50 cap. - £5.95  
5.25" 100 cap. - £9.95

### MONITOR PLYNTH

Are you running out of desk space? Then we have the ideal desk space saver!! The monitor plynth is a high quality, fully painted, metal unit on which will house either an Atari ST or Amiga A500 underneath, while having your TV/monitor standing on top.  
**£20.00**

### COMPUTER COVER

NEW! A solid perspex computer shield which fits both STs and Amiga A500s. Protects the keyboard and the disk drive from dust, liquid and weights (within reason!!!). Be safe - not sorry, with our NEW computer cover.  
**£12.99**

### CONTRIVER 5 in 1 MOUSE

The new 5 in 1 mouse is compatible with the Atari ST, Amiga A500, Amstrad PC, Schnieder PC and Commodore PCIII. The package also includes a neoprene mouse mat and a mouse house.  
**£21.00**

### DISK DRIVE CLEANING KITS

3.5" - £3.50  
5.25" - £3.50

### DUST COVERS

High quality tailored dust covers. Available for :  
Atari ST : £6.99 each  
Amiga A500 : £6.99 each  
LC10 printer : £4.99 each  
SM124 monitor : £7.99 each  
Philips 8833 : £7.99 each

### ST TRACKBALL

CONTRIVER 3 button trackball.  
**£29.99**



# ATARI 520ST

ALL ATARI STE/STFM PRICES INCLUDE VAT AND UK DELIVERY. ALL PRODUCTS CARRY A FULL 12 MONTH WARRANTY. ALL STE MACHINES ARE CHECKED PRIOR TO DESPATCH. PLEASE RING US BEFORE ORDERING TO CHECK STOCKS AND CURRENT PRICES. ALL OF OUR STE COMPUTERS HAVE THE "PLUG-IN" RAM SOCKETS AND DO NOT REQUIRE A SOLDERED IN RAM UPGRADE. ALL OF OUR STE COMPUTERS ALSO HAVE THE NEW DMA CHIP SET FITTED ALLOWING TROUBLE FREE OPERATION WITH ATARI HARD DISK DRIVES. ALL STE MACHINES COME WITH THE NEW CONTROL PANEL SOFTWARE.

	512k	1mb	2mb	4mb
<b>520STE STANDARD PACK.</b> consists of the computer with mouse, tv lead, manual and all connecting leads etc. The Standard Pack is supplied with NO software.	£319.00	£339.00	£379.00	£459.00
<b>520STE TURBO.</b> consists of Standard Pack and STOS, Basic, Hyper Paint II, Music Maker II, 8 games (Indiana Jones, Impossible Mission II, H.K.M., Super Cycle, Outrun, Dragons Breath, Anarchy & Blood Money) and a joystick	£339.00	£359.00	£399.00	£479.00
<b>520STE BUSINESS.</b> consists of Standard Pack and also comes with K-Word 2 word processor, K-Data database, K-Spread spreadsheet and Metacomco Basic programming software.	£359.00	£379.00	£419.00	£499.00
<b>520STE TENSTAR.</b> consists of Standard Pack and Asterix, Chess Player 2150, Driving Force, Live + Let Die, Onslaught, Pipemania, Rick Dangerous, Rock n Roll, Squeek, Trivial Pursuit II and a joystick	£339.00	£359.00	£399.00	£479.00
<b>520STFM STANDARD.</b> consists of the computer with mouse, tv lead, manual and all connecting leads etc. The Standard Pack is supplied with NO software.	£235.00			
<b>520STFM DISCOVERY.</b> consists of the Standard Pack and STOS, First Basic, NeoChrome and 4 games (Carrier Command, Space Harrier, Outrun, Bomb Jack) and a joystick	£245.00			
<b>520STFM TENSTAR.</b> consists of Standard Pack and Asterix, Chess Player 2150, Driving Force, Live + Let Die, Onslaught, Pipemania, Rick Dangerous, Rock n Roll, Squeek, Trivial Pursuit II and a joystick	£269.00			
<b>520STFM BUSINESS.</b> consists of Standard Pack and also comes with K-Word 2 word processor, K-Data database, K-Spread spreadsheet and Metacomco Basic programming software.	£289.00			

## STE RAM KITS

<b>DIY 1 KIT - 520STE to 1MB</b> ( 2 x 256K cards )	£34.99
<b>DIY 2 KIT - 520/1040 to 2MB</b> ( 2 x 1MB cards )	£99.00
<b>DIY 4 KIT - 520/1040 to 4MB</b> ( 4 x 1MB cards )	£179.00

ALL RAM KITS ARE SUPPLIED WITH INSTRUCTIONS. PLEASE CHECK YOUR STE CONFIGURATION BEFORE ORDERING

**IMPORTANT : ALL OF OUR ATARI STE s ARE UPGRADABLE AND DO NOT REQUIRE SOLDERING TO EXPAND THE MEMORY**

# AMIGA A500

## AMIGA A500 BASE PACK

A500 computer, mouse, tv modulator, manuals, Workbench, etc supplied 'bare' with no games software

£309.00

## AMIGA A500 SCREEN GEMS PACK

A500 computer, mouse, tv modulator, manuals, Workbench, DPaint 2 and Days of Thunder, Back/Future II, Nightbreed and Beast II

£359.00

## AMIGA A500 ASTRA PACK

A500 computer, mouse, tv modulator, manuals, Workbench, etc plus ASTRA 10 games pack (for contents see opposite)

£335.00

## AMIGA A500 CLASS 90's FIRST STEPS

A500 computer, mouse, 1Mb Ram Expansion, manuals, Workbench, etc comes with DPaint II, Dprint II, Pro Write 2.5, InfoFile, Music Mouse, Lets Spell, Logo, BBC Emulator, 10 Blank disks and mouse mat

£529.00

## AMIGA A1500 PACK

A1500 1Mb ram computer with 2 x 3.5" drives, mouse and software : Platinum Works, DPaint 3, Populous, Simm City, Battle Chess, Their Finest Hour and 2 books

£650.00

ALL AMIGA PRICES INCLUDE VAT AND UK DELIVERY. ALL PRODUCTS ARE UK STOCK AND ARE COVERED BY A FULL 12 MONTH WARRANTY.

**New low low prices !!**

512K Ram Upgrade + clock	£29.95
A590 20Mb Hard Disk drive	£274.95
A590 1Mb Ram Upgrade	£45.00
Roctec external disk drive	£65.00
Golden Image Handy Scanner	£195.00
Amiga Stereo Scart Lead	£9.99
VIDI Amiga Video Digitiser	£99.99
Master Sound 1	£34.95

## GAMES LESS THAN £3.00 EACH ?

Datascram, Dungeon Quest, E Motion, Grand Monster Slam, Kid Gloves, RVF Honda, Suffle Puck Cafe, Soccer and Tower of Babel. These games make up the **AMIGA ASTRA PACK** available for only **£29.95 inc.**  
\* NB : Games are not available seperately \*

## ST GAMES LESS THAN £3.00 EACH ?

Asterix, Chess Player 2150, Driving Force, Live + Let Die, Onslaught, Pipemania, Rick Dangerous, Rock n Roll, Squeek & Trivial Pursuit II.

All of the above games are available in the Tenstar Software pack for only -

**£29.95** - thats less than £3 each!

(requires double sided internal disk drive)

NB : These games are not available seperately

## BEST PRICES MAIL ORDER

(DEPT NCE), UNIT A, GRAFTON PLACE,  
WORTHING, WEST SUSSEX. BN11 1QX

**(0903) 700714**

**TELESALES 10am till 12 midnight**

Telesales : Mon to Sat Returns, Technical & Queries : Mon to Fri (10am till 6pm)

All prices include VAT and free UK delivery unless otherwise stated. All prices / specifications / special offers are subject to change without notice. Goods usually despatched same day as cleared payment is received. Personal cheque clearance takes 7 days. Please make cheques/P.O.'s out to BEST PRICES. Mail order only. No callers. Thank You.

ADD £6.50 INC VAT FOR NEXT WORKING DAY UK DELIVERY, ADD £32.50 INC FOR SATURDAY UK DELIVERY



BEST PRICES MAIL ORDER - WE HAVE THE LATEST LOW PRICES FOR ATARI ST & COMMODORE AMIGA - RING NOW



## COMPUTER REPAIRS

G B SYSTEMS — LINK

The Repair Specialists

Sinclair .....	16K, 48K, 128K, +1, +2, +3
Commodore .....	VIC20, 16, 64, 128, Amiga
Amstrad .....	464, 664, 6128, 8256, 8512, 9512
Acorn .....	Electron, BBC, Master, Archimedes
Atari .....	400, 800, ST520, ST1040

All the above are on a fixed labour charge plus the cost of the parts

IBM .....	PC, XT, AT, PS2
Amstrad .....	1512, 1640, 2086, 2286, 2386
IBM Clones .....	Any make / model undertaken

The above are charged on a hourly rate

Most printers and monitors repaired

**Spares** we can supply most parts from single ICs to complete exchange boards

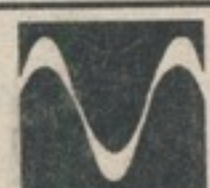
**Sales(new/secondhand)-Installation-Cabling**

Why not save hassle and send us your computer for repair by post

**Phone 081 979 5638**

**86 Walton Road East Molesey Surrey KT8 ODL**

150 Space public car park at rear of shop



dataplex



## DATEPLEX COMPUTERS LTD.

129 Bath Road,

Slough,

Berkshire,

SL1 3UW

Tel: 0753 35557

19 High Street

Swindon,

Wiltshire

Tel: 0793 488448

### SHOWROOM

open:

Mon - Fri

9.30 - 5.30

Saturday

9.30 - 4.30

### MAILORDER

Consumables

£1.50

Hardware

£8.00

Prices excluding VAT

### AMIGA A500 HARDWARE

Amiga A500 Screen Gems Packs + free disks .....	£305
Amiga A500 Screen Gems Pack + free disks + 10 extra games pack .....	£345
Amiga A500 1 Meg Class of 90's .....	£459
Amiga A500 1 Meg Class of 90's (First Steps) .....	£459
Amiga A1500 Computer .....	£549
Amiga A1500 + 1084S monitor .....	£759
Amiga A1500 + Philips CM8833 MKII .....	£725

### SPECIAL OFFER

Amiga A500 Screen Gems + 1 free box disks + 512K RAM (1 Meg) .....

While stocks last

Amiga A500 + TV Mod + Mouse + system disk + manuals .....

or

As above + 10 extra games pack .....

### ATARI COMPUTERS

Atari 520STFM discovery pack includes 4 games .....	£240
Atari 520 STE Turbo Pack includes basic STOS and 7 games + Joystick .....	£310
Atari 1040 STE extra pack includes ST Words, ST Calc, ST Basic, ST Graphics, Hyper-Paint, STOS, 1st Basic, Print Game .....	£399

### AMIGA/ATARI DRIVES

1 Meg 3.5" internal .....	£49
1 Meg 3.5" external .....	£60
1 Meg 5.25" external .....	£90

### ACCESSORIES

512K Ram + clock .....	£39
Joystick .....	£10
10 Blank disks in library box .....	£8
Mouse Mat .....	£3
Amiga/Atari Mouse .....	£29

### MONITORS

Philips CM8833 MK II Colour Monitor + FREE Lead .....	£189
Commodore 1084S .....	£199
SM 124 (Atari) .....	£99

### PRINTERS

Star LC10 Mono .....	£129
Star LC200 Colour (9 pin) .....	£180
Star LC24 200 (24 pin) .....	£210
Star LC24 200 Colour .....	£245
Star LC24/10 .....	£175
Panasonic KXP1124+ lead .....	£199
Panasonic KXP 1123 .....	£180
Panasonic KXP1624 .....	£329
Citizen 120D + .....	£120
Citizen Swift 24 + Colour Upgrade .....	£259
Citizen Swift 9 + Colour Upgrade .....	£185
Epson LQ400 (24 pin) .....	£199

### LASER/INKJET PRINTERS

PLEASE CALL FOR PRICES

# Macintosh

### PRINTER JOY

Well, here they are then. Although there have been rumours flying around for the last few months about exactly what form the new printers from Apple would take, there were still some surprises when they were finally revealed.

So, who will be buying the new machines? Well, essentially anyone who doesn't need PostScript output. If you own Adobe Type Manager for any PostScript fonts which you have, and make a habit of buying TrueType fonts in the future, you will have a top-quality output device for a fraction of the price of a PostScript machine.

The new machines will be superb for those of us who want high quality without the cost. Expect to see thousands of TrueType fonts appearing at reasonable prices in the near future.

### CHEAP LCS

If you're involved in education and you meet Apple's criteria, you could qualify for a Mac LC at a special low price – but only if you apply before the end of March. Until then, you could get a 2Mb LC with 40Mb hard disk and 12-inch colour monitor for £1,085 plus VAT. The same configuration with a monochrome monitor costs just £985 plus VAT.

Get in touch with your local AppleCentre for more details if you think that you might qualify for the discount.

### RUMOURS...

After reading this column a couple of weeks ago, Apple's PR agency rang us to let us know that the Mac appears on the TV programmes *Spender*, *Lovejoy* and *Boon*. So there.

Not quite so trivial, System 7.0 is now being slated for release on May 13, the first day of Apple's Worldwide

Developers' Conference. Although not officially confirmed by Apple, sources 'close to the company' are quoting this date. Expect to see versions available to the public about two or three weeks after that. Final Beta versions are now shipping to developers; with a bit of luck I'll be seeing one within the next couple of weeks, and will be able to give you some first-hand info about the improvements that it offers.

Rumours are beginning to circulate that sometime this year Apple will introduce a version of the Mac Classic with a 68030 chip replacing the current 68000 processor. This will increase its speed to about the same as the IISI or IICX, and will probably result in a slight reduction in the prices of those Macs. But don't hold your breath – it's likely to be the end of the year before the 'SuperClassic' appears, and it certainly won't replace the present Classic.

The Mac LC doesn't seem to be selling as well as Apple had hoped. Insiders feel that perhaps it hasn't been marketed with as much vigour as the other two new models – it falls in the halfway house of not being a member of the Mac II family, but not being a 'non-modular Mac' like the Classic either. Expect a heavy advertising campaign to raise consumer interest in the LC in the near future.

Newsbytes, the on-line information service, reveals that at a recent conference in Japan, Apple Chairman John Sculley was overheard to say that Apple is "discussing" sharing Macintosh technology with other companies. This would include the Mac operating system, and the Mac's GUI.

At the same conference, referring to the release of Windows 3, Sculley said that: "So far there is no damage to the sales of the Macintosh. On the

## POSTCARD FROM AMERICA

The reverberations of the MacWorld Expo are still bouncing around the San Francisco Bay Area. The recovery of many late night party animals is still in question. Early some mornings, with a foghorn blasting in our bedroom window, I endure a flashback of the amazing MacWeek magazine "Mac the Knife" party. Mac the Knife is its primary rumour monger.

This was no ordinary run-of-the-mill software hype mixer, held in a nearby hotel suite, with some bowls of pretzels, crusty canapes, and free beer. This was the absolute must-attend Macsocial event of the season.

It was held in the top floor of DV8 (deviate), a terribly chic nightclub housed under a downtown freeway. Eager MacWorldies started lining up around 11pm, hard-won tickets in hands. The bouncers passed the multi-millionaire developers straight through the doors, ahead of the crowd. The rest of us crawled up three flights of stairs after a long wait in the cold.

Inside was a scene that few Macnerds have ever experienced. Loud. Dark. Smoke. Louder. Grilled shark tacos. Laser light show. I was deafened.

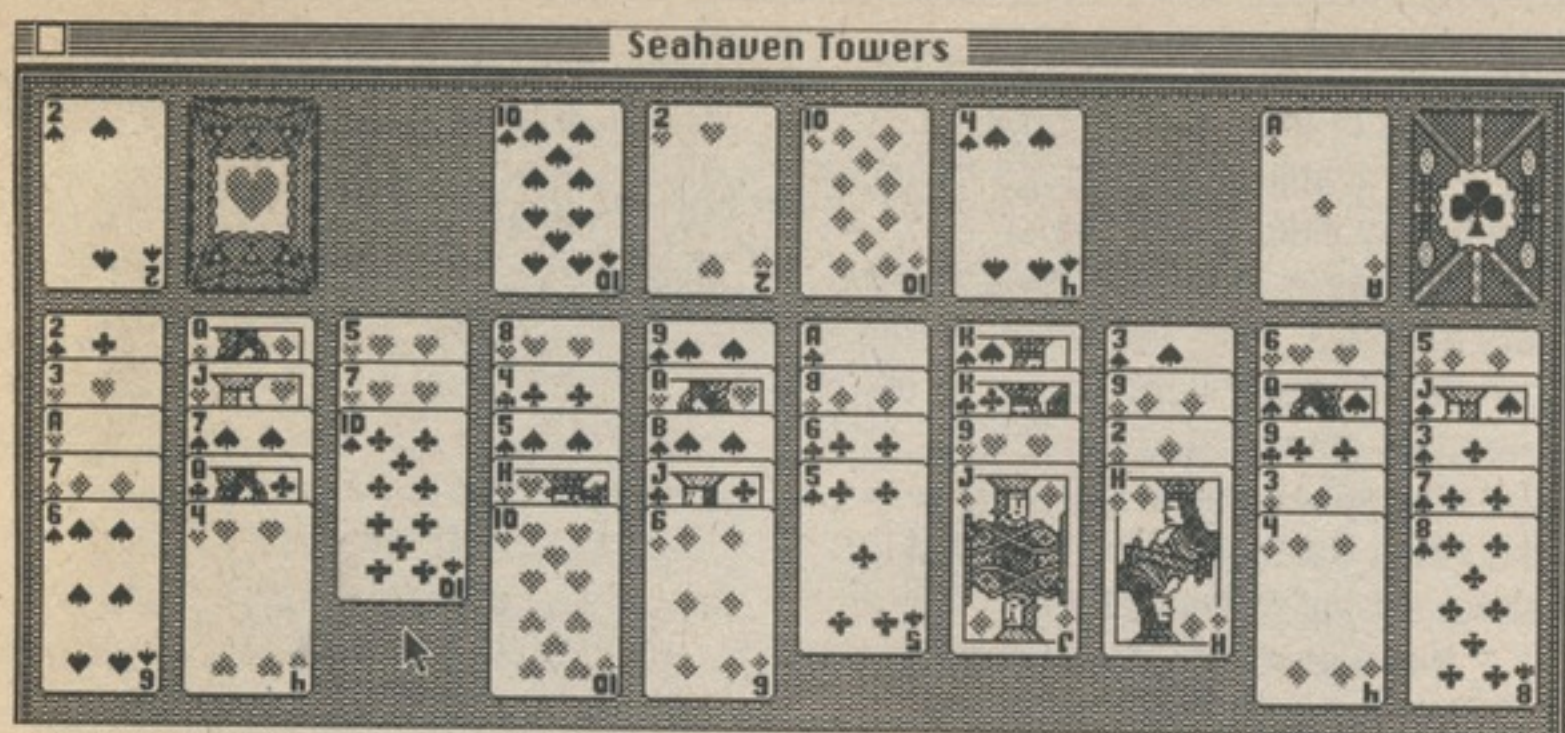
I've never been able to understand why, at parties at which everyone wants to see and be seen, all the lights are out? It's also difficult to impress that special contact when everyone is effectively deaf. This crowd was not going to win any dance contest, either.

The overflow party hopefuls were let into the "real" disco below, decorated with immense Keith Haring murals. This was where the action was hot! Beautiful young guys and gals, terrific clothes (or lack of the same), and the latest dances. I tried to persuade some buddies of their good fortune in being stuck in the disco. Most trendy clubs exclude the nerdish set with selective entrance policies.

A very small tip: Is your mouse jumping and skipping around your desktop? This is one of the effects of the WDEF virus, so use your anti-viral software to check your hard drive. More likely it's a down to earth problem – a dirty mouse. Pop out the mouse ball and clean the three rollers inside. If that doesn't do the trick, try pushing in the ADB plug firmly into the keyboard. That should stop any cursor cursing.

David Morgenstern





• Seahaven Towers: so that's why Tim Smith is in the office at weekends!

contrary, Windows 3 has drawn attention to a graphic user interface and, as a result, it has stimulated the sales of the Macintosh."

Following on from the NuTek Mac clone story I told you about a couple of weeks back, Cork Computer, a US-based company, has apparently said that it expects to ship a \$2,999 Mac IICI clone on March 25. This clone will only require a 128K ROM from a monochrome Mac, which will plug into the clone's main logic board. The company has developed colour ROM chips which will provide the same functionality as 32-bit QuickDraw without infringing Apple's copyright. Watch this space for details...

#### CARD SHARP

For the past few weeks, work at Future Towers has been reduced to a crawl by the invasion of a shareware game called Seahaven Towers. It's not brand new, but for some reason it's only just appeared in the office.

Seahaven Towers is a variation on Patience or Solitaire, and it's highly addictive. It's also extremely difficult (Tim 'Smith' Smith has just spent three days completing one game), and it has that 'well, just one more game' feature with a vengeance. The shareware fee is \$20, and, as usual, it's available from on-line services such as CIX as well as most PD and shareware distributors.

Ian Wrigley



#### CHIP'S CHALLENGE

Chip is tall, lanky, bespectacled and... a nerd. Sad, but true. Chips possesses all the social and sartorial elegance of your average trainspotter. All this would be bad enough - but he also happens to be head-over-heels in love with the gorgeous Melinda of the Bit Busters computer club.

Chip has one chance. If he can find his way through 144 levels of puzzles, collecting some missing microchips along the way, he can join the Bit Busters, and maybe even capture the heart of Melinda too.

Chip's Challenge is a long way from US Gold's usual arcade conversion territory, concentrating on traditional seen-from-above puzzling screens, rather than scrolling and blasting mayhem. Each level comprises a variety of traps, monsters, puzzles and useful objects. Keep a lookout for things like the cleats, which let you walk across ice, and keys to get you through locked doors. You can also push various blocks around, too, to help you cross gaps - or maybe you'll discover something interesting underneath...

The levels differ considerably in size - the first is a tiny 'training' level - and you only see a portion of each on-screen at any one time. This really is a very big game. Fortunately, each level comes with its own password, so you don't have to play through the easier early levels every time you load the game up.

The scoring is a bit strange - there isn't any! Neither do you have a set number of lives. Instead, this game is simply about progress. If you 'die' you simply start again on that level. Since most people are only interested in progress anyway, this successfully



• This is the character you play in Chip's Challenge. Grim isn't it?

• Level Five, and a rather handy bit of advice for Chip...

## HIGH QUALITY DISKETTES

PIN NUMBERED QUALITY DISKETTES 100% CERTIFIED AND GUARANTEED 100% ERROR FREE. MANUFACTURED AND QUALITY ASSURED BY AN INTERNATIONAL BRAND NAME

3 1/2 DS COLOURED  
2 DD

39p EACH

RED, WHITE, BLACK, YELLOW, ORANGE, GREEN.

3 1/2 DS DD 35p EACH

ORDERS OVER 100 RING FOR PRICE

3 1/2 DS HD 69p

5 1/4 DS DD 22p

5 1/4 DS COLOURED DD 28p

5 1/4 DS HD 42p

PLASTIC EA STORAGE BOXES  
3 1/2 LIBRARY 89p 3 1/2 40 cap...£4.20 3 1/2 80 cap.. £4.60  
5 1/4 CASES 5 1/4 50 cap...£4.40 5 1/4 100 cap £4.90

EURODATA  
12A QUAKERS YARD  
ADAM AND EVE ST  
MARKET  
HARBOROUGH  
LEIC LE16 7LT  
TEL: 0858 433992

RING FOR  
MEMOREX  
BRANDED PRICES

LIFETIME GUARANTEE  
ALL PRICES INCLUDE DISKETTE  
LABELS ENVELOPES AND VAT  
ORDER NOW WITH POSTAL ORDER OR  
CHEQUE MADE PAYABLE TO EURODATA,  
OR TELEPHONE YOUR ORDER USING  
MASTERCARD & VISA. SUBJECT TO  
AVAILABILITY  
ADD £3.20 P&P



LOWEST  
PRICES  
FOR HIGHEST  
QUALITY



ONCE BYTTEN  
39 Marling Way,  
Gravesend, Kent,  
DA12 4DW  
Tel 0474 567964  
Fax 0474 537172



### AT-PCs with Hard Drive & VGA Monitor £599

These SafeDATA systems comprise of: Desktop case with Digital display of speed, 1Mb of Zero Wait State RAM, AMI BIOS, 5.25" 1.2Mb or 3.5" 1.44Mb Disk drive as standard, 44Mb 28ms Seagate Hard Drive, 2 serial & 1 parallel port, IDE controller for 2 Hard and 2 Floppy Drives, 102 key enhanced keyboard, Graphics card & Monitor.

Hard Drive Systems	VGA Mono	VGA Colour	S/VGA Colour
286-12Mhz	£599	£699	£799
286-20Mhz	£699	£799	£899
386SX 16Mhz	£799	£899	£999
386SX 20Mhz	£899	£999	£1099
386-33MHz	£999	£1099	£1199
(32k cache)			
486-25Mhz	£1799	£1899	£1999

#### OPTIONS:

Extra Floppy Drive £49, 124Mb 19ms Seagate Hard Drive add £199,  
Extra RAM (per 1Mb) £49, Mini Tower Case add £35, Tower Case add £49,  
MS-DOS 4.01 £49,

All prices include fitting and pre-delivery testing  
Many other combinations available, many other options,  
all built to very high standards.

ALL PRICES EXCLUDE VAT AND DELIVERY -  
PLEASE RING OR WRITE FOR A QUOTE

STOP PRESS!! We now accept American Express Cards for all purchases



# 36p

inc VAT

## 3.5" DISKS inc LABELS

These disks are 100% error free and fully guaranteed with a 2 for 1 replacement. Limited quantity only. We're sure you will order from us in the future.

PE&P: 50 disks & over is free. Under 50 disks only £1.50  
All prices include VAT. Send Cheques or Postal Orders to

### KYC Disks

9 Barmouth Road, Wandsworth, London, SW18 2DT.



Telephone 081-870 0469

Open Mon - Sat from 10am-7pm



### E.S.D.

East Yorkshire/N. Humberside's  
leading Amiga mail order dealer.



**ACCOUNTS.**  
Arena Accounts .....119.00  
Small Business Acc. ....169.47  
Small Business Acc. extra.....79.81  
System 3 .....39.79  
Personal Finance Mgr .....24.85

**BOOKS.**  
Large range please phone, e.g.  
Amiga Dos In+Out (Abacus) ..16.61  
Amiga C for Beginners (Ab) ..16.61  
Amiga Desk Top Video (Ab) ..16.61  
Amiga Basic In+Out (Ab).....17.09  
Amiga Machine Lang. (Ab)....14.00  
Mapping the Amiga (Compu).....18.95  
Amiga H/W Ref Manual (A/W) ..19.93  
C Prog. Lang. 2nd. ed. (K&R) ..22.97

**C.A.D.**  
Aegis Draw 2000 .....156.96  
Intro C.A.D. ....44.96  
Boardmaster .....72.22  
Professional Draw V2 .....99.82  
X C.A.D. Pro. (2 MB) .....338.25

**DATABASES & SPREADSHEETS**  
K-Data 2 .....34.95  
K-Spread 3 .....66.95  
Prodact (Arnor) .....54.97  
MicroFiche Filer .....55.70

**D.T.P. & W.P.**  
Pagestream V2 .....145.68  
Pagesetter II .....49.49  
Pen Pal .....98.92  
Protext V4.3 .....67.86  
Protext V5 .....99.79  
Scribble (Platinum) .....41.80  
Professional Page V2 .....178.79  
Transwrite .....34.96  
Word Perfect .....169.91

**GRAPHICS & VIDEO**  
Anim. Studio(Disney) PAL ..79.90  
The Art Dept. ....55.97  
C-Light .....36.97  
CAN-DO .....95.77  
Calligrapher .....66.29

Comic Setter .....39.69  
C/Setter clip art (each) .....14.91  
DeLuxe Paint III .....57.86  
DeLuxe Video III .....72.96  
DigiPaint 3 .....57.90  
DigiView Gold .....125.83  
Director (The) .....46.82  
Director Toolkit .....25.75  
Fantavision .....32.47  
Forms in Flight .....29.39  
Movie Setter .....41.43  
Photon Paint V3 .....Phone  
Photon Cell Anim. ....79.96  
Pixmate .....38.96  
Pro Video Plus .....184.21  
Sculpt Animate 4D .....319.97  
Sculpt Animate 4D Jnr. ....82.85  
Turbo Silver .....99.80  
TV\*Text (Prof. £98.79) .....57.86  
Vista .....48.76  
Video Effects 3D .....117.87  
Zeotrope .....78.64  
Design Disks, ClipArt disks, Font disks, etc. Avail. ....Phone

**HARDWARE**  
1/2 Mb+Clock (Microbotic) ....42.95  
1084SD Monitor+Leads .....246.98  
A590 H/Drive .....267.50  
Amiga A500's from .....314.00  
Amiga 1500 to 3000's .....Phone  
(Full range of Amiga expansion cards available).

**P.C. EMULATORS**  
AT-Once (AT Emulator) .....172.47  
KCS PC Powerboard .....278.00  
(Large range of P.C. software available).

**PROGRAMMING**  
A/C Fortran .....217.30  
AMOS .....36.59  
Arg. Assembler .....43.96  
Aztec C Professional .....99.33  
Devpac Assembler .....40.97  
Hi-Soft Basic .....55.97  
Lattice C .....162.98

Modula 2 Std. ....77.96  
**PROGRAMMING UTILITIES**  
K-Gadget .....22.46  
AREXX Macro Lang. (V1.51) ..32.98  
Cygnus Ed. Pro. V2 .....49.97  
Hi-Soft Basic Extend .....14.97  
Power Windows 2.5 .....51.54

**UTILITIES**  
Amiga DOS Express .....23.04  
BBC Emulator (New version) ..33.74  
CLI Mate .....29.88  
DOS 2 DOS (New version) ....33.80  
GOMF 3 .....25.75  
Interchange .....39.80  
I/Change Modules (each) .....16.70  
MAC 2 DOS .....72.47  
X-Copy Pro inc H/Ware. ....34.44

**EDUCATIONAL SOFTWARE.**  
Large range available. Please phone/write, for separate price list.

**STRATEGY & FLIGHT SIMS**  
B.A.T. ....21.95  
Chaos strikes back .....19.95  
Damocles .....17.50  
F19 Stealth fighter .....21.95  
Flight Sim II .....24.95  
Operation combat .....19.95  
Powermonger .....21.95  
Speedball 2 .....19.95  
Ultima V .....22.95  
Wargame construction set .....21.95

**Note:-** Large range of Joysticks disk boxes/dust covers, mouse mats, etc. available. e.g. 3 1/2" DS/DD unbranded disks £5.00p for 10. £22.50 for 50.

Most items of software have a 20-30% discount off the R.R.P. This is just a small example of our AMIGA related range. (Printers, Modems, Genlocks, etc. all at discount prices).  
Re-Ink:- Ribbon re-inking spray available @ £11.65 per can.

Phone for prices of, ICD products/Vortex hard disks/Porter range of hard drives for the A500 (20 to 120Mb)/Upgrades/Help & advice, in fact, anything to do with the Amiga.

Payment, By phone: Quote your access/Visa no. & expiry date.  
By post: Send Cheque/Postal Orders or Access/Visa details to:

**Enchanter Software Design**

8 Dykes Close, Hessle

N. Humberside, HU13 0BW

Enquiries/Orders Tel: (0482) 644254 (9am to 7pm).

Terms: Postage/VAT inc. Most items normally dispatched within 24hrs.  
EXPORT/BFPO/EDUCATION orders welcome. Prices, subject to variation.

removes one of the most frustrating elements of most puzzle games.

The graphics are OK, but rather on the blocky side, one of the disadvantages of small characters and lots of colour. Also, the screen scrolling can be decidedly sluggish, especially on the more complicated levels. That said, the slow speed doesn't interfere with the game too much, since most of it is about solving puzzles anyway.

It makes a welcome change to see US Gold trying out something a bit different especially when the result is as good as this.

#### F-16 FLIES NEARER

Digital Integration has been pretty quiet on the CPC front over the last couple of years, but all that's about to change with the imminent release of F-16 Combat Pilot.

So far I have only seen it running briefly – and then in the hands of an experienced DI 'pilot' – but it looked smooth, fast and rather good; the static screens are especially impressive.

Also coming up on the games front is Turrican II from Rainbow Arts. The original was the classic shoot-'em-up of 1990, featuring fast action, lots of baddies, ultra-tough gameplay and generally remorseless violence.

Frankly, it's hard to imagine Rainbow Arts improving on it, but I look forward to the sequel all the same. So far, only a rolling demo has been completed, but it looks like it might well be capable of upstaging the original.

#### 464 VS 6128, THE OTHER ARGUMENT

The sad fact is that 6128 owners tend to regard the 464 as a poor cousin. The tape-based machine seems to act as a kind of lowest common denominator, its inferior memory meaning that the majority of commercial applications (games, principally) aren't designed to exploit the greater capabilities of the 6128. Wouldn't it be wonderful if Amstrad phased out these 64K tape-

based machines, leaving software houses free to cater exclusively for their 128K big brothers...?

Well, A Sugar (it's true, I tell you) of Glasgow has some other, rather interesting, ideas:

"Firstly, budget computer games would die a sad death on the abolition of cassettes. For many young computer fans like myself, who own cassette machines, and whose only means of buying software is weekly pocket money (I get £4 myself), this would mean an end, basically, to buying games. And the action of recoding from tape to disk does not offer any consolation.

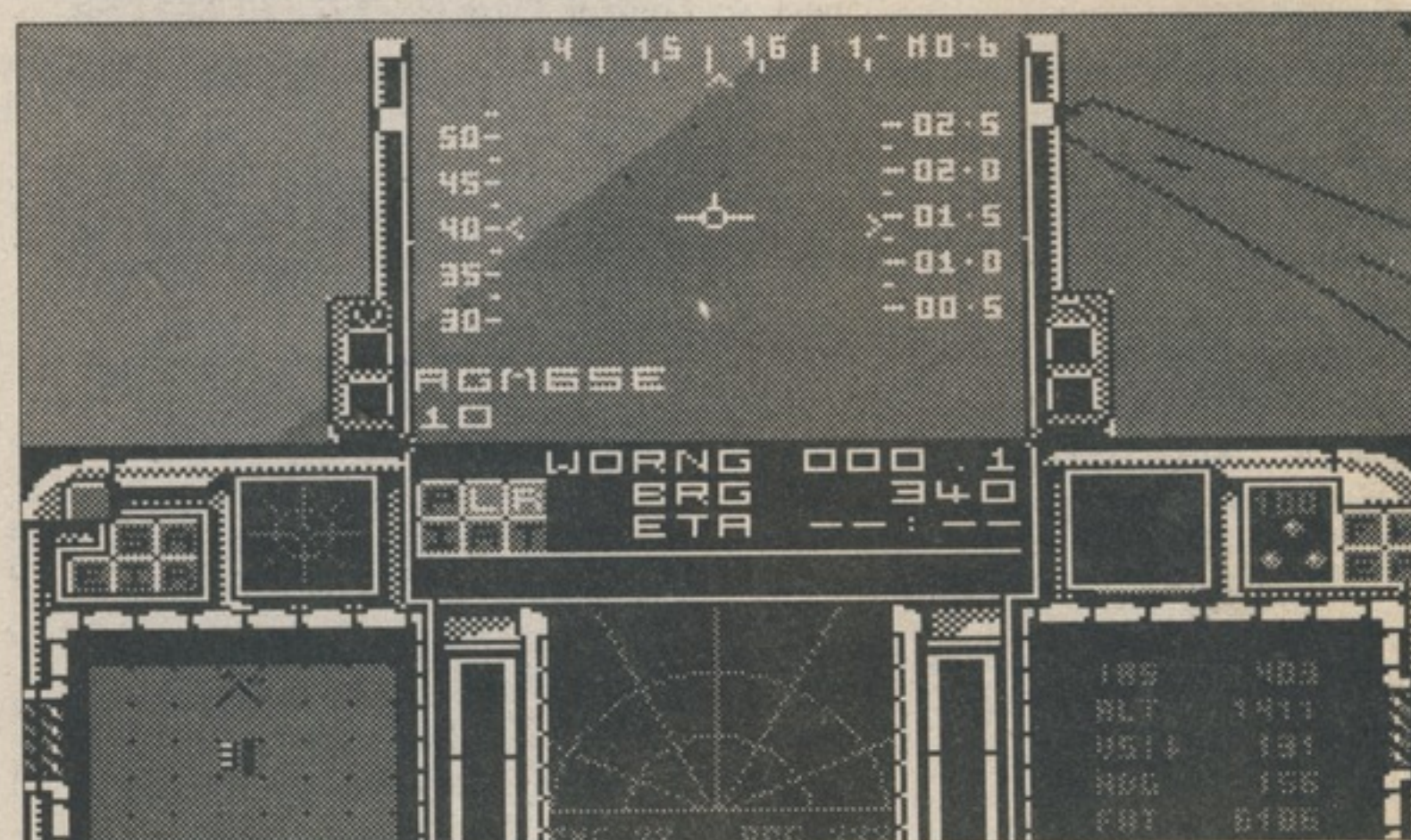
"Consoles, being devoted to games, may provide stunning graphics, but at £20-30 a throw for software are they worth it? I think not, when you compare that to £2.99 for much the same game on cassette. I know console graphics are heavenly, but when you think about it, the Amstrad graphics aren't altogether hell-bound either. Anyway, it depends on the game.

"Also, surely the variety of games on offer on disk is limited? With cassettes, my eyes gaze lovingly at row upon row of neat, rectangular budgets bargains while I might find the odd disk game dotted here and there."

Certainly, the budget market is much underestimated. Just because full-price games have the highest profile, it doesn't mean they sell the most.

Also, Amstrad's relaunch of the CPC series has had some interesting and subtle effects. The 464 Plus is much less the poor cousin in the gaming world that it once was. After all, it can now play the entire range of games on sale, from budget £2.99 offerings through full-price tape-based games and even console games. In contrast, the new 6128 Plus is 'comparatively' limited in the games that can be played on it – how do you load budget games on a machine with no tape port?

Rod Lawton



• F-16 Combat Pilot for the CPC takes to the air real soon.



#### CARTRIDGE

Many of you may have noticed that Datel Electronics has produced an Amiga 2000 version of its highly regarded Action Replay Mk II utility cartridge. It simply plugs into the processor slot on the 2000 and contains exactly the same features as the Amiga 500 version.

A word of warning though – it seems that the card is only compatible with 2000's that have a minimal amount of expansion hardware installed.

My 2000 has 9Mb of RAM (1Mb of chip RAM) and a hard drive installed, so I was rather annoyed when I received my Action Replay card, only to find that it did not work. So I phoned Datel's





• Action Replay – a real dodo on the 2000?

technical support line (which is actually run by some very helpful people), only to find out that the card will only work on a 2000 with no more than 2Mb of RAM. Datel also claims that the card will only work with Commodore-produced hard drives so if you've got another make (which, let's face it, are usually better than the Commodore's own), you're stuck.

The question is, then, what's the point in producing a utility cartridge for the 2000 if it won't work on an expanded machine? People buy the 2000 because of its expansion capabilities, so it goes without saying that the vast majority have at least some form of expansion hardware fitted. OK, I'm not saying that we all have 9Mb of RAM, but I'm sure that most serious 2000 owners have at least 3Mb.

So I sent back my card and requested instead an Amiga 500 cartridge which Datel claim will also happily work with my A1000. But, surprise surprise, more disappointment – it doesn't work with the A1000 either! Oh well, looks like I'm finally going to have to take the plunge and buy an Amiga 500.

Meanwhile, there's still no sign of the promised follow up to Data Electronics' Nordic Power cartridge which was released in April of last year. When I spoke to Klaus Roregar of DE back in September of last year, he promised me that the new cartridge would be made available in a 2000 plug in card form sometime in January of this year. As we all know, January came and went without a sign of a single cartridge from the Holland-based company.

According to Klaus (perhaps he would like to contact me if he's reading this?), the cartridge was to be designed in such a way that it could be used on both an A500 and a 2000 (there are two connectors on the board).

**WRITE TO REPLY**

I recently received a letter from Gary Devey of Ealing in London concerning my review of the Applied Engineering High Density floppy drive which I featured a few weeks back in *Express*.

Gary wanted to know a few more details about the drive. Firstly, I forgot to mention that the drive is available Stateside for \$189 (which will probably translate to approximately £140). This isn't a bad price at all when you consider that the drive will also take

standard Amiga 880K floppies as well as the 1.52 Mb high density floppies.

Secondly, Gary asked whether the high density drive would function with Bitcon's KCS Power PC Emulator card for the 500 and Consultron's CrossDOS. The simple answer to this is 'yes' and 'no'. If you want to read and write high density PC floppies, then it won't work (you'll need a modified version of both CrossDOS and the KCS emulation software for this to work). If, on the other, you wish to use standard 720K PC floppies, then you won't encounter any problems.

Changing the subject slightly, Gary also wanted to know whether it is possible to connect PC hard drives to the Amiga. Well, he's in luck again. All you need is the correct controller card and you're in business. There are a large number of different controller cards available for the Amiga which will allow you to connect XT (indeed, the A590 uses an XT drive), SCSI, AT IDE, ST506, etc drives to your machine. Contact Third Coast Technologies on 0257 472444 who will almost definitely be able to help you.

It's also possible to connect up PC SHUGART floppy drives to the Amiga by constructing a very simple interface. Complete instructions on how to achieve this can be found in the latest issue of *JAM* which is available by telephoning 0895 74449.

If you're after a very cheap external floppy, then these SHUGART drives are a very good bet. Simply by scanning the advertisements in a PC magazine, you can buy a bare drive for a fraction of the cost of an Amiga drive.

Finally, Gary enquired whether there is a drive available which will work from the parallel port. The only such drives of which I am aware are the range of 'Tiny Tiger' hard drives from George Thomson Services (I'm not quite sure if they still sell them, but give them a bell just in case). These also offer 'pass-through' connectors, so you can still connect up and use video digitisers, samplers etc. GTS is on 077082 234.

**A COMPLETE LEMMING?**

It saddened me to read in *Express* issue 121 that *Psygnosis' Lemmings* had been 'cracked, hacked and packed' within days of its release. After all, we all complain endlessly that many of the games released for the Amiga are either totally devoid of gameplay, have appalling graphics and sound or are

# SWITCHBOARD

75 Kirkmuir Drive, Stewarton, Ayrshire, KA3 3HP

Tel: (0560) 85296

Fax: Voice Request

## HEWLETT PACKARD PRINTERS / PLOTTERS

**Deskjet 500 £349**

3 year warranty

**Paintjet £399**

1 year warranty

**HP 7440A - 8 Pen  
Colourpro Plotter £369**

Prices exclude VAT

**ALL MAJOR CREDIT CARDS  
ACCEPTED**

## GOT NO FRIENDS? NOW you can buy one!

*Special Amiga A500  
Screen Gems Pack*

*Includes:*

*Screen Gems Pack +  
20 FREE P.D. titles, 10 FREE  
disks, choose your PD titles  
from massive list.*



Diners Club  
International ®

**£379**

**INCLUDES VAT  
AND COURIER  
DELIVERY**

**GET OUR FREE  
CATALOGUE  
PHONE NOW!**

**ORDER FREE ON**

**0800 252623**

**OR FAX 051 931 3857**

**051 924 0200**

**(enq)**

Post cheques/P.O.  
to:- **Unbeatable  
Prices Ltd,  
FREEPOST,  
LIVERPOOL  
L23 0XH**

**GET PD DISKS "FREE"  
PHONE OR WRITE NOW  
FOR DETAILS! (AMIGA ONLY)**



★ ATARI ST ★ ATARI ST ★ ATARI ST

**A brilliant offer for readers of  
New Computer Express!**

# Devpac ST 2

**FROM HISOFT ONLY £44.95**

Devpac ST version 2 is widely regarded as the most powerful assembly language development system for the Atari ST. It incorporates a debugger, stand-alone assembler and a fast linker

## IT INCLUDES:

➤ **GenST** Assembler is a high-performance, full-featured, two-pass Motorola standard macro assembler at up to 75,000 lines per minute. It has multiple modules and sections, repeat loops and macro calls that may be nested as deeply as memory allows.

➤ **MonST** Debugger is an advanced symbolic monitor, debugger and disassembler. Now in addition it can offer multiple window display, full expression evaluator, up to 22 significant characters in symbols, viewing of source files and conditional breakpoints.

➤ **Example Files** of a wide variety including a full GEM type windowing application and an example desk accessory.

The package comes complete with an extensive ring-bound manual plus notes on the various operating system levels and debugging strategies.

**Order now by phone from the NCE mail order service or send the coupon to our FREEPOST address.**

**HOTLINE NUMBER**

**0458 74011**

**DevpacST 2**  
version 2

Complete Assembler/Debugger System  
for the Atari ST Computer

**SAVE  
£15**

**Yes, I would like to order a copy of**

**Devpac ST 2**

**Name** .....

**Address** .....

**Tel No** .....

**I would like to pay by Access Visa Cheque PO**

**Please debit my credit card**

**No** .....

**Expiry Date** ..... **Tel. No** .....

Send & make cheques payable to Future Publishing,

FREEPOST, The Old Barn, SOMERTON, Somerset. TA11

• One major drawback of Lemmings being pirated is that the reduced sales might mean that companies will stop bothering to put so much effort into their games.



direct ports from lesser machines (or even a combination of all three).

But what happens when someone finally produces something that is actually worth the £25 asking price? Some moron goes and pirates it.

I've got no sympathy whatsoever for software houses that produce naff games software (some games aren't worth 25p, let alone £25), but when a software house really puts in the effort to produce a top notch game, we owe it to them to respect that effort. By buying the product, we can demonstrate that users are prepared to pay for a quality product and hopefully this should encourage software houses to put in the extra effort to produce even more decent games (as they say, vote with your wallet).

You may well argue that price of games is too high, but that is simply no excuse for pirating games. The fact is,

a game is a product like any other – just like, say, a car or a chocolate bar. The producer of that product can only afford to develop future products (a tastier chocolate bar or a new model of car) if they have made enough money from previous products.

You've heard it a million times before, but it still holds true – where software piracy is concerned, the only people that suffer in the long run are the users themselves. If companies like Psygnosis cannot recoup their costs, then they will simply stop developing products for that particular machine. Already there have been rumours that the Psygs may do just this and move across to the consoles, which would be a great loss to us all. So come on, do the sensible thing – if you already know that a game is good, then go out and buy it.

**Jason Holborn**

# Archimedes

## TELETEXT ADAPTORS

Over the couple of weeks I've been trying out two teletext adaptors, one from the well-known Morley Electronics and the other from the less well-known Ground Control. Both are separate boxes, ie they're not podules, but they do require plugging into the Archie's IIC bus via the podule backplane.

The IIC bus is a 'slow' serial connection that allows communication between all sorts of odd bits of electronics. For example, my Philips video recorder has an IIC bus connection on the back. Having this sort of connection means that these adaptors are truly 'universal'; with only an appropriate driving routine they could be plugged into BBCs, Nimbuses (Nimbi?), PCs or even Spectrums!

The Ground Control unit has a 'data' socket on the front and you must order the appropriate connection lead with the unit. The Archie lead I received is particularly pleasing with a very smart, sealed podule connector. The Morley unit, on the other hand, has a rather disappointing piece of ribbon cable emerging from one end with a podule connector soldered onto it.

Both units need separate power supplies from the Archie; Ground Control has one built in, with a big chunky on/off switch on the back of the box. Morley has a mains plug transformer which must be connected to a BBC B-style socket near the podule

socket. This does mean it is a little untidy with another wire going into your Archie, but once plugged in, you soon forget about all the spaghetti at the back of your desk.

The Ground Control unit also sports an AUX socket which has composite video and audio connections. This means you can connect a suitable monitor (eg Philips CM8833) to it and watch the telly!

The final cosmetic difference is in the case. Ground Control has a strong BBC beige, steel case making it look remarkably like a Music 500, while Morley's case is plastic. This, along with the lack of internal power supply, does make it much lighter than the Ground Control unit!

Of course, nobody is really interested in the dimensions of the case; it's the supporting software you need to know about. The only problem I have at the moment is that it isn't really fair to compare the two yet. Ground Control has a full multi-tasking 'Mode 7 in a window on the desktop' application whereas Morley is a single-tasking Basic program that uses Mode 7 directly. But I have been told that a RISCOS version is in production.

So without too many comparisons, here's what you get.

## GROUND CONTROL

The Ground Control software installs itself on the icon bar and will change the



default Mode 12 palette if you so desire. Clicking on the icon brings up an emulated Mode 7 window (no flashing characters, though) and a numeric keypad for entering page numbers.

You'll probably need to tune the channels before starting; this is achieved by selecting 'TUNE' from the menu then manually stepping through channels 21 to 69 to find a signal. Fine tuning from -49 to 49 is also available. If you're lazy, you can also use the SEARCH facility which automatically steps through the channels until a strong signal is found.

Assuming you've set all this up correctly, channels can now be selected by pressing 'CH' followed by a channel number on the numeric keypad (I would have liked to see separate BBC1, BBC2, ITV and Channel 4 buttons). This will automatically take you to the index page.

As mentioned above, page numbers can be entered by typing the number on the keypad; you can also point to the coloured 'FastText' buttons at the bottom of the window to take you to related pages or, best of all, by simply pointing to a page number displayed in the window and clicking the mouse. This is a really simple, but very effective feature.

All the usual functions are available, such as Hold, Conceal/Reveal and page-saving. There is also a handy !Edit-style Notepad for jotting down page numbers. Another useful feature is the facility to customise the menu by adding four preset pages of your own choice, but you really need to be able to do more than four.

The Emulated Mode 7 screen is very nicely done, (apart from the lack of flashing characters); the character set is particularly easy to read - double height especially so - and if you try displaying the test pages on Channel 4 (Page 693) you'll see it also has a set of foreign character sets built in. Double width, smooths, mosaics and palette

changing (under Extended Level 1/Level 2 teletext) are not supported.

#### MORLEY

The Morley software is a bit of a let down after Ground Control, but should not be dismissed as useless. It uses the Archimedes' own Mode 7 display, and so supports flashing characters. Everything is controlled via the keyboard - mainly with the function keys (a keystrip is provided). Shift f1-f4 select channels while the ordinary number keys select pages.

FastText links are supported, but there is no method of picking page numbers off the screen.

Shift f5 allows the unit to be tuned (with the cursor keys) and a readout in channel number and MHz is displayed. As there is no video output, though, it is quite tricky to find the channels.

Pages can also be saved, loaded and printed. The only real feature of the software is the ability to search for a given subpage - for example number three of seven - which you cannot do with Ground Control.

#### THE FINAL VERDICT

To sum up, both units do their job well. Neither is perfect, and I can think of a number of absent features which would be desirable, including auto page caching. The attention to small details makes the Ground Control adaptor the most appealing of the two at the moment and at £75 is almost half the price of the Morley which is £147.20. Maybe the Morley RISCOS software will change that, but with such a large price difference I don't think Ground Control has too much to worry about.

Ground Control can be contacted on 0702 230324 and Morley Electronics is on the other end of 091 257 6355.

Next week, a review of Superior Software's Master Break Quiz... Can I have a Cue please Bob?

Ken Coumarin

## THIS IS **NOT** A MISPRINT

ONLY BY PURCHASING OVER 3 MILLION DISKS  
A YEAR CAN WE OFFER THE FOLLOWING  
SENSATIONAL PRICES...



Every diskette supplied by  
Dial a Disc is certified and  
tested 100% error free.

200 DSDD  
3.5" ONLY  
£60.00

#### 3.5 DSDD 135 TPI DISKS

50 DSDD only £22.00	100 DSDD ONLY £33.00	200 DSDD ONLY £60.00	500 DSDD ONLY £135.00
3.5 High Density 60p each	5.25 DSDD Only 23p each	5.25HD Only 40p each	

200 DSDD  
3.5 Plus 2 x 100  
capacity lock box  
£66.00

#### DISK STORAGE BOXES

3.5" 40 capacity .....£2.95  
3.5" 80 capacity .....£3.45  
3.5 100 capacity.....£3.95  
only if bought with disks

ALL prices include VAT & delivery

OUR PROMISE IS SIMPLE

100% SATISFACTION OR MONEY BACK



#### DIAL A DISC

203 Southborough Lane, Bromley, Kent, BR2 8AR.

081-467 0131

All offers subject to availability. E/OE.

64

#### AND HERE IS THE NEWS

Elite, which has been absent from the C64 software scene for some time now, has returned to the fold with Gremlins 2, its licensed adaptation of the film that features Gizmo, Mohawk, Electric, Skateboard, Sexygirl and more mischief than you could find in an Iraqi command and control bunker.

Graphically, the game offers a lot,

especially in terms of capturing the antics of the Chinese demons as they climb out of plug sockets charged for action, run you down on resin wheels or pogo their way across the screen. Indeed eight of the most noticeable of the film's gremlins find their way into the game and though the sprites are small, they convey quite well, their chaotic big screen counterparts.



• Gremlins II: great graphics, incredibly faithful to the film and annoyingly difficult.

## SWITCHBOARD

75 Kirkmuir Drive, Stewarton, Ayrshire, KA3 3HP

Tel: (0560) 85296

Fax: Voice Request

### HEWLETT PACKARD PRINTERS / PLOTTERS

Deskjet 500 £349

3 year warranty

Paintjet £399

1 year warranty

HP 7440A - 8 Pen  
Colourpro Plotter £369

Prices exclude VAT

ALL MAJOR CREDIT CARDS  
ACCEPTED



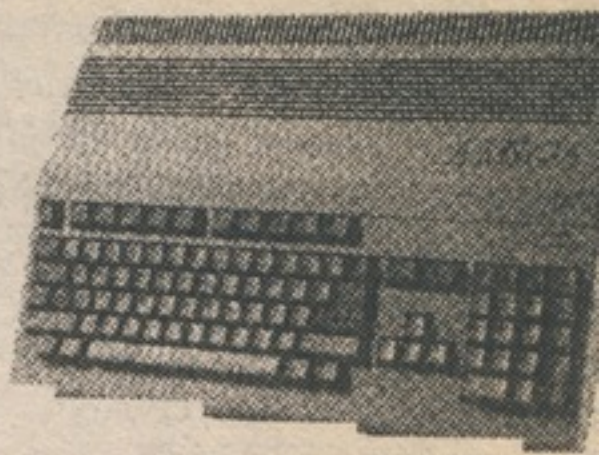
# AMIGA DEALS - CLEARANCE PRICE

## AMIGA 500 STANDARD PACK

- ★ A500 computer ★ 512k RAM ★ 1Mb disk drive ★
- ★ mouse ★ modulator ★
- ★ power supply ★ operation-manuals ★
- ★ workbench disks, etc. ★

# £299.95

★ VERY LIMITED STOCKS  
exclusive to N.C.E readers



## AMIGA SCREEN GEMS PACK featuring ROBOCOP AND FRIENDS

### Just Look At What You Get

- |                             |                                      |
|-----------------------------|--------------------------------------|
| ★ Amiga as in standard pack | <b>PLUS exclusive to Dowling</b>     |
| ★ Days of Thunder           |                                      |
| ★ Shadow of the Beast II    | ★ ROBOCOP                            |
| ★ Back to the Future II     | ★ BATMAN the Movie                   |
| ★ Nightbreed                | ★ GHOSTBUSTERS II                    |
| ★ Deluxe Paint II           | ★ INDIANA JONES and the Last Crusade |

Sale Price - Limited Stock **£349.95**

## THE ALL NEW ULTIMATE GAMES PACK

Take the pack on the left featuring Robocop etc and add the following:

**EXCLUSIVE DOWLING MEGA TEN GAME PACK** comprising RVF HONDA, DATASTORM, DUNGEON QUEST, E-STORM, GRAND MONSTER SLAM, KID GLOVES, POWERPLAY, SHUFFLEPACK CAFE, MICROPROSE SOCCER, TOWER OF BABEL.

**Total RRP of games over £229**

**PLUS**

★ Megablaster Joystick ★ High Quality Mousepad ★ Dustcover

Sale Price - Limited Stock **£379.95**

**AMIGA 1 1/2 MEG UPGRADE BOARD**

- ★ Uses latest 4 chip design
- ★ Memory on/off switch
- ★ Option of battery backed clock
- ★ Full 12 month guarantee
- ★ New super low price

**£29.95**

Clock Version **£34.95**

## 3 1/2" HIGH QUALITY DISKS

Box of 50.....£19.95  
Box of 100.....£37.95  
Box of 250.....£79.95  
Roll of 1000 labels.....£5.99

- ★ 100% certified ★ Individually wrapped
- ★ "Made in Japan" media
- ★ Fully guaranteed

## CUMANA CAX 354 DISK DRIVE "SCOOP"

- ★ Latest slimline design
- ★ High speed access
- ★ Acknowledged as "the best"

RRP £89.95 **SCOOP PRICE £59.95**

## A590 20MB HARD DRIVE CLEARANCE

- ★ Official Commodore Hard Drive
- ★ Sockets for 2Mb RAM
- ★ Built in PSU

**STOCKS VERY LIMITED**  
exclusive to N.C.E. Readers

# £249.95

## PACK 1 AMIGA PERIPHERAL PACKS PACK 2

Megaboard Ram Expansion.....RRP **£49.95**  
40 capacity lockable disk box.....RRP **£9.95**  
20 3.5" DS/DD disks with labels ...RRP **£19.95**

Cumana CAX 354 disk drive .....RRP £89.95  
Megaboard Ram Expansion .....RRP £49.95  
40 capacity lockable disk box.....RRP £9.95  
20 3.5" DS/DD disks with labels .....RRP £19.95  
3.5" disk drive cleaner kit.....RRP £9.95

**TOTAL RRP £79.85 .....PACK PRICE £39.95** **TOTAL RRP £179.75 ...PACK PRICE £99.95**

# COMPUTERS

UNIT 3, FORGE CLOSE, LITTLE END ROAD, EATON SOCON, CAMBS

**DOWLING**



## ATARI STE DEALS - CLEARANCE PRICE

### ATARI STE "TURBO" PACK

- ★ New Atari STE computer ★ Anarchy
- ★ Blood Money ★ Dragons Breath
- ★ H.K.M. ★ Impossible Mission
- ★ Indiana Jones ★ Outrun
- ★ Super Cycle ★ First Basic
- ★ Hyperpaint II ★ Music Maker II
- ★ Stos Games Creator

# £299.95

**TOTAL RRP £399.95**

★ VERY LIMITED STOCKS  
exclusive to N.C.E readers

## NEW !

### STE 1Mb, 2Mb and 4Mb LANGUAGE LEARNING PACKS

*Yet another Dowling exclusive.*

Enhanced STE computer plus over £100 of software comprising

The French Mistress ..RRP £19.95	1Mb STE .....£339.95
The German Master ..RRP £19.95	2Mb STE .....£379.95
The Italian Tutor.....RRP £19.95	4Mb STE .....£459.95
The Spanish Tutor .....RRP £19.95	
Metacomco Basic .....RRP £24.95	
<b>Total RRP £104.75</b>	

**SM124 Mono Monitor (when purchased with ST) only £99.95**

### THE NEW AMIGA 1500 ONLY £699.95 INC VAT

Not only does the Amiga 1500 accept all standard Amiga 2000 peripherals but can also be upgraded to full IBM compatibility. Just feast your eyes on what you get:-

- ★ Latest Commodore Amiga 1500 computer complete with 1Mb of Ram (expandable to 9Mb) and 2 x 3.5" 880Kb disk drives.
- ★ Platinum Works:- An integrated word processor, database and spreadsheet package.
- ★ Deluxe Paint III :- Paint/Animation package.
- ★ Populous & Sim City:- Two great strategy games.
- ★ Battlechess:- The most exciting game of chess you'll ever play.
- ★ Their finest hour:- Battle of Britain brought to life.
- ★ A-Z of Computer jargon.
- ★ "Get The Most Out Of Your Amiga":- Two introduction books.
- ★ Optional 1084S Stereo colour monitor.

**This pack with 1084S  
colour monitor  
£929.95**

## THE NEW 200 SERIES FROM

**stair**

*"The best printers just got better!"*

#### LC-200 FACT FILE

- ★ Multi-purpose 9-pin, 80 column dot matrix printer with colour
- ★ Black and colour ribbons included as standard
- ★ Electronic dip switches (see LC24-200)
- ★ 180-cps draft elite/45 cps near letter quality
- ★ High speed draft facility 225 cps at 12 cpi
- ★ Swivel selectable push or pull tractor
- ★ Bottom feed

RRP £297.85

**OUR PRICE  
£199.95**

#### LC24-200 FACT FILE

- ★ Versatile 24-pin 80 column dot matrix printer
- ★ 200 cps in draft elite/67 cps in letter quality mode
- ★ 10 resident LQ fonts
- ★ A high speed draft facility of 222cps at 10cpi
- ★ Swivel selectable push or pull tractor
- ★ Bottom feed
- ★ Advanced paper parking with sheet feeder installed
- ★ The economy of first and last line printing
- ★ 7 K-byte buffer expandable to 39K-bytes

RRP £366.85

**OUR PRICE  
£239.95**

#### LC24-200 COLOUR FACT FILE

- ★ Multi-purpose colour version of the 24-pin LC24-200
- ★ Seven colour printing - black, purple, orange, green, pink, blue and yellow
- ★ 30 K-byte buffer expandable to 62 K-bytes
- ★ 10 resident letter quality fonts: Sanserif, Times Roman, Courier, Prestige, Script and italic versions
- ★ Electronic dip switches operable from the push button front control panel (as the LC24-200 mono version)

RRP £424.35

**OUR PRICE  
£279.95**

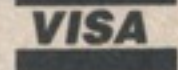
**STAR LC10 MONO £149.95**

**STAR LC24-10 £199.95**

TELESALES ORDER LINE (MON-FRI) 0767 681760/(SAT) 0480 403304



## HOW TO ORDER



### BY PHONE



Simply call our head office quoting your Access/Visa number on

**Mon-Fri 0767 681760**

**Sat 0480 403304**

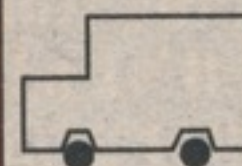
By personally calling at  
our St Neots Shop  
**6 Priory Mall,  
St Neots, Cambs  
Tel: 0480 403304**



### BY POST

Make cheques, building society drafts or postal orders payable to:

**Dowling Computers**



### DELIVERY (UK Mainland, most areas)

Please add £6 courier delivery for orders over £100, add £2 p&p for orders under.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

## GOLD CLUB SERVICE

- ★ 7 day money back guarantee if not completely satisfied
- ★ 30 day exchange for new policy should a fault occur
- ★ 1 year guarantee giving FREE collection and delivery service should a fault occur
- ★ Exclusive gold card with personal membership number entitling you to special offers
- ★ All this for a nominal £10 per item over £100

### ★NEW★ PLATINUM CARD SERVICE ★NEW★

- ★ All the benefits of the successful gold card service (above) plus the following

- Extended 2 year guarantee from date of purchase. (Peace of mind for 2 years)
- Free use of loan machine should yours need to be repaired. (Now you never need be without your expensive purchase)
- Free collection and delivery service for the full two years should a fault occur. (Just make one simple phone call and leave the rest to us!)
- Exclusive platinum privileged customer card entitling you to special offers.
- All of these benefits for the incredible price of just £39.95 per item purchased.

N.B. In the unlikely case of shortages of identical model loan machines a suitable alternative will be offered.

## WHY CHOOSE DOWLING?

- ★ **ESTABLISHED OVER 5 YEARS**  
With a growing reputation for "putting the customer first". We intend to satisfy many more customers for years to come
  - ★ **TECHNICAL SUPPORT/ON-SITE ENGINEERS**  
Employing over 20 specialist staff, we are equipped to deal with the majority of queries
  - ★ **FULL TESTING PROCEDURE**  
All computer hardware is tested prior to despatch, proving Dowling's commitment to customer care
- So choose Dowling and put our reputation to the test!***



## NEW LOW PRICES FROM BCS

## BULK BUYERS

50 3 1/2 DS/DD.....	£21
100 3 1/2 DS/DD.....	£33
150 3 1/2 DS/DD.....	£47
200 3 1/2 DS/DD.....	£60
400 3 1/2 DS/DD.....	£115
500 3 1/2 DS/DD.....	£135
1000 .....	£CALL

Price incl  
VAT & P&PINCL FREE  
LABELS

## DS/DD

## DISKS &amp; BOXES

50 Disks + 80 Box .....	£23
100 Disks + 80 Box .....	£36
150 Disks + 80 Box .....	£50
200 Disks + 2 80 Boxes .....	£64
400 Disks + 80 Box .....	£118
500 Disks + 4 80 Boxes .....	£148

Price inc VAT &amp; P&amp;P

5 1/4 DS/DD .....	20p
5 1/4 DS/HD .....	38p

SONY  
BULK 38p3 1/2 High  
Density

60p

100 3 1/2 HD £57.50  
inc. VAT & P&P

3 1/2 40 Cap Box .....	£4
3 1/2 80 Cap Box .....	£4.30

3 1/2 150 Cap  
Posso Box

£14.95

5 1/4 50 Cap Box .....	£5
5 1/4 100 Cap Box .....	£5.75

STAR LC-200  
Colour Printer  
£199STAR LC-24-200  
Colour Printer  
£310Philips CM8833  
MKII Monitor  
£209

ADD £3.50 FOR 3 DAY DELIVERY (FROM DESPATCH) ADD £9 NEXT DAY

## AMIGAS

Amiga 500.....	£310
Screen Gems .....	£355
+ Astra Games .....	£385
Class of the 90's .....	£510
First Steps.....	£510
Dust Cover .....	£5
1/2 Meg Upgrade.....	£32

1/2 Meg + Clock.....£37

Cumana Drive.....£63

Mouse Mat.....£2.50

Zipstick.....£11

Jetfighter.....£12

Printer Lead.....£8

Naksha Mouse.....£34

## ATARIS

Lynx.....£118

Discovery.....£259

Turbo Pack.....£350

Cumana Drive.....£68

Dust Cover.....£5

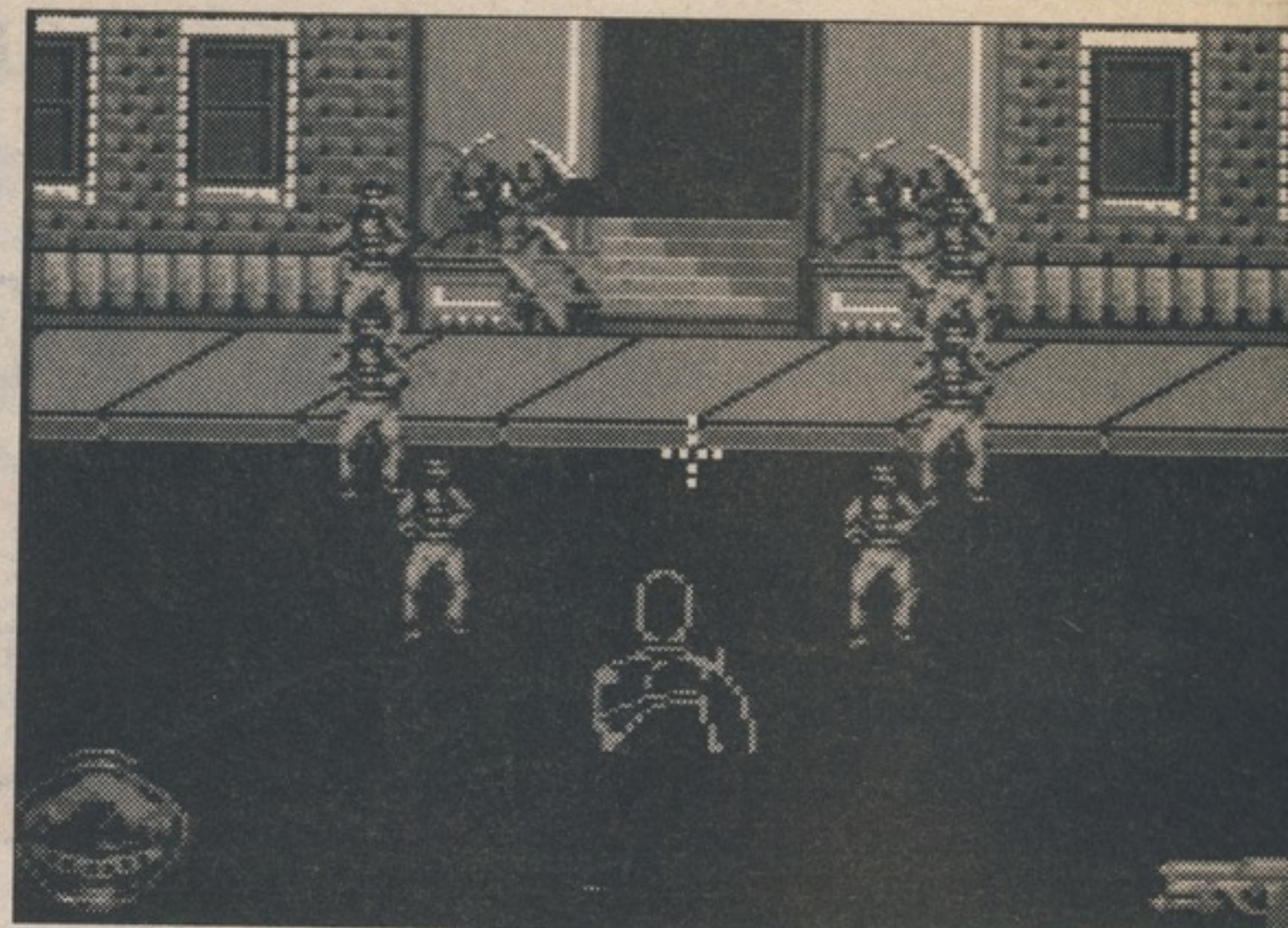
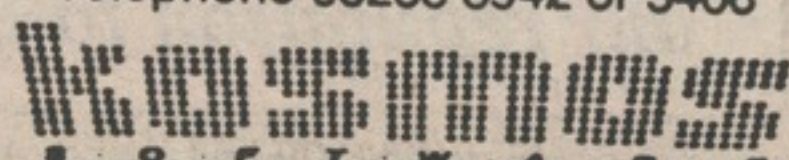
Call or Send cheques/Postal Orders to

BCS LTD, 349 Ditchling Road,  
Brighton E.Sussex BN1 6JJ

Tel 0273 506269 or 0831 279084

Your computer is  
the only teacher  
which YOU CONTROL!Whatever your age, whatever your subject  
- let your computer help you learn.

Subjects include ...

French, German, Spanish, Italian, English  
History, Geography, Science, General Knowledge,  
Football, First Aid, Sport, England, Scotland,  
Natural History, Junior Spelling and ArithmeticAvailable for most popular  
home & business computersKosmos are specialist producers of Educational  
Software designed to help you enjoy learning from your  
computer. Our programs even allow you to add your  
own lesson material.Write or telephone for a FREE 20-page BROCHURE  
of our Educational & Leisure software  
Please state your computer typeKosmos Software Ltd, FREEPOST (no stamp needed)  
DUNSTABLE, Beds. LU5 6BR  
Telephone 05255 3942 or 5406

• Predator II: a bit of a departure in style for Mirrorsoft.

Problems stem from the nature of the game itself (but then, don't they always). It's very tough and unforgiving when it comes to game play. As the game unfolds by screen flicking, you realise that the only way of learning to play is through trial and error. But every error results in a head-to-head confrontation with the 'Game Over' monster (well, you lose a life and that's bad enough). How many times someone will really want to start all over again is a matter open to contention. Suffice to say that when the beast arrived in the office, I wasn't the only one to go part way up the wall playing it. Definitely worth trying though.

## PENN IN EXILE

Speaking of trying, Gary Penn (sorry, Gary), former editor of Zzap! 64, has just become a special correspondent for Commodore Format. In the forthcoming issue he files a report on a new Audiogenic game that's already got him chomping at the bit.

Exile is the product of collaboration between Jeremy Smith (author of the fab Firebird game, Thrust) and Peter Irvin who for his sins once wrote a smashing game himself. But he wrote it on a BBC and was sent to do penance at university. I don't want to spoil that report so that's as much as I want to give away - except to say that Exile is probably only a month away and this isn't the last you'll read about it by any means.

## AUDIOGENIC OVERDRIVE

Staying with the big A for a moment, the company has just announced that it will be releasing Test Drive III - The Passion (whaaat?) before too long.

It really does sound as though the company can't let go of the teenage-car-girl fantasy and why should it?

And just to prove that the back seat of a coupé isn't the only place it gets sporty, the company is about to bring out a number of sports games under a new label, to be known as Sports Action.

Among the first titles on the label will be the self-explanatory Sports Action Rugby, with code courtesy of Denton Designs, and Super League

Manager, which will be a sequel to Emlyn Hughes' International Soccer. Man of the match on that one is Gary Bassett who I understand has been taking coaching from Lou Macari. Sounds like the boy done good.

And just in case you missed it first time around, Graham Gooch World Class Cricket is to be re-released in time to distract us from the summer's forthcoming test match disasters.

## END OF ORLANDO ROAD

It's not as though the C64 is still being supported by massive numbers of freelance programmers who can consistently deliver high-quality code. Many talented names now appear tagged on to the latest 16-bit games.

Now Nick Pelling has quit programming for the C64. Pelling (aka Orlando) programmed some

respectably long-lived games in his time, including 3D Pool and Firetrack, but he's had enough of the old beige beastie and has decided to move on to pastures new.

What's almost as much of a shame as his departure is the fact that there isn't exactly a long list of successors waiting to step into

the considerable breach.

## QUICKIES

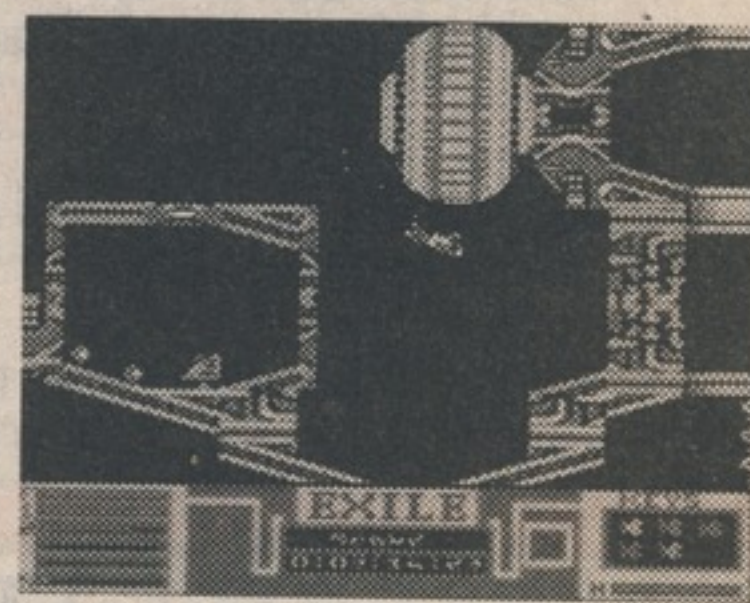
Colditz is finished and I stand by what I wrote last Christmas about its potential to be one of this year's biggies.

Virgin has definitely dropped its Silver Surfer project. If you had heard anything about it you can now let it slip from your memory.

On the other hand the company has at last finished Viz. Remember folks, it's for adults only (some hope they have of enforcing that one).

Carl Muller who worked on the C64 version of Teenage Mutant Hype Turtles is going flat out to make sure that Speedball 2 is ready for summer. The game is being brought to you by Cap'n Bob's very own Mirrorsoft.

That company's own Imageworks label is bashing out an adaptation of Predator 2 in time for the film's release. This one represents something of a departure for Mirrorsoft in that normally they handle film licences by selecting memorable scenes from the film upon



• Exiles: It may look a bit strange but its way and promises to be good.



memorable scenes from the film upon which they're based and make a package of mini-games out of them (as with *Back to the Future II*). All four levels of *Predator 2*, however, will contain the same style of game play.

And if you still haven't heard enough about Mirrorsoft, let me tell you that it has just about wrapped up *Back*

*To The Future III* and (surprise, surprise) it consists of four mini-games stitched together loosely but nicely enough. It looks like being the best of their *BTTF* efforts (third time lucky?) except that the first level's something of a nightmare to play. Well, you can't have everything.

Sean Masterson

# Spectrum

## THE DISK OF THE CENTURY!

Good news for SAM owners! A veritable bargain has just been released by the Contact user group. *PD '90* is a compilation of the best public domain software for the Coupé this year, squeezed onto one disk and available to any SAMster for a solitary quid.

It's a bargain of such magnitude that I feel like I should be bursting through the page in classic MFI advert style and telling you to BUY BUY BUY!! As it is you'll have to make do with an enthusiastic recommendation of this disk containing eight prime cuts of SAM PD from the computer's first year.

The highlight for me is *Tetris*, a SAM version of the classic computing standard. There are also some excellent demos which should turn your Spectrum owning friends green with envy, and even a respectable footy management type affair.

For £1 *PD '90* is an absolute snip, available from Contact, 10 Ricardo Road, Old Windsor, Berkshire. SL4 2NU. (Cheques made payable to Mr C. Duggan.)

Contact plans to follow this up with a regular bi-monthly disk comprising the best PD of the last two months for a similarly meagre sum. An excellent idea, I'm sure you'll agree, and one that should cut down on the hassle of sending off for PD which tends to vary in quality from smashtastic to decidedly dodgy. So loud cheers, pats on backs and promises of gratuitous amounts of free drinks go to Contact.

## OFFICIALLY UNOFFICIAL

Oh yes, regarding the thrilling controversy that's dominated the

Express letters page recently concerning The SAM Coupé Users' Group. For once I didn't actually make a mistake, as the bloke from INDUG keeps insisting, by passing on information about a SAM user group which has decided to call itself after the computer it is bothering to support. That's its name and I, your humble columnist, merely conveyed it to anyone who might be interested, never implying it was an official user group.

I admit that I do make my fair share of real mistakes, cock ups and blunders in the column without being told I'm wrong when I'm not. Anyway what are they expected to call themselves? The User Group For Owners of That Spectrum Compatible Computer With Blue Feet Whose Name Sounds a Bit Like Cam Soupé?

## LETS GET TECHNICAL

Richard.Bak has deluged me with techno tips in the past and now he's gone and given us a whole machine code listing. The following routine is for use in conjunction with a Multiface and was written by Robert when he experienced memory problems while using the afore mentioned spanky little add on. As you know, I'm a bit dim when it comes to complicated things like this so here's the author to tell you what the following arrangement of strange words and numbers does:

"This routine allows you to swap between two short (up to 8K) programs or (as in this case) between a short program and the first part of a long one, provided they don't both use the same area of memory outside the saved 8K block. Of course, it can be



• To celebrate the first full year of the Coupé there is new compilation of the best SAM PD software of 1990 which includes that old computer standard, *Tetris*.

# Atari ST Owners!

Put Power Into your cartridge port

# Ultimate Ripper!

The cartridge your ST has been waiting for!

- Breaks into any ST program
- Fits easily into the cartridge port
- Powerful Tool for all Atari ST users

Whether you are a programmer, hacker, games player, or just curious about the workings of your Atari ST, the Ultimate Ripper gives you the power that you need.

## Just look at the features...

- Break into any program • Read Memory • Search Memory • Print Memory • Disassemble • Disassemble to Disk • Edit Memory • Search For Graphics • Search for sprites • Edit screen configurations • Set up colour palettes • Alter plane configurations • Load & Save Screen Displays • Run external TOS programs • Load TOS Programs • Load & Save graphic screens • Low Level Disk Editor • Disk Analyser • Examine formats • Format analyser • File Editor • Directory editor • Formatter • Break & Restart function • Search for infinite lives • Look for music • Play music • Load & save music • Search for soundtracker music • Search for Sound Samples • Programmers Calculator built in • Many more features • Updates available with new software • Full support for STE sound & Graphics

## The Ultimate Ripper

is available *only* from

# POWER COMPUTING

Ultimate Ripper.....£39.95

Price includes VAT and delivery. All of our products carry a 1 year warranty

The Ultimate Ripper may be ordered by postal mail order or by telephone

We accept Access and Visa

POWER COMPUTING LTD

44a Stanley Street, Bedford, MK41 7RW

0234 273000

(5 lines)

We accept credit orders by telephone on the above number or by fax on 0234 270133 We reserve the right to change prices and product lines without notice

The Ultimate Ripper is sold on the understanding that it is not used to contravene the 1988 Copyright Act.

• Now Available - Full Colour Product Directory £1.49 with free utility disk! •

DEALER ENQUIRIES WELCOME - PHONE OR FAX FOR QUANTITY PRICING



loaded anywhere convenient; the swapped Spectrum RAM area can be other than 30000, and the whole of Multiface RAM could be used (start=8192, length ditto) if you don't mind corrupting the jump vector." Robert suggests using the routine as follows:

- 1) Load SWITCH and GEN (either way round!);
  - 2) Use GEN
  - 3) Debugging is needed, so RANDOMIZE USR 65500 to switch GEN with whatever random rubbish is in Multiface RAM
  - 4) Load and use MON
  - 5) RANDOMIZE USR 65500 to save MON and bring back GEN...etc.
- And Robert warns: "Be careful not to press the button on the Multiface or whatever is in memory will be corrupted."

Right, I think that's everything that Multiface owners need to know in order to indulge in a wild routine switching session. The only thing that needs to be said is a fawning thanks, cheers and "that's fab" to Robert.Bak.

	ORG	65500	
F3	SWITCH	DI	
DB 9F	IN	A, (#9F)	
01 40 1F	LD	BC, 8000	
11 30 75	LD	DE, 30000	
21 08 20	LD	HL, 8200	
1A	LOOP	LD	A, (HL)
F5	PUSH	AF	
7E	LD	A, (HL)	
12	LD	(DE), A	

F1	POP	AF
77	LD	(HL), A
23	INC	HL
13	INC	DE
0B	DEC	BC
78	LD	A, B
B1	OR	C
20 F3	JR	NZ, LOOP
DB 5F	IN	A, (#5F)
FB	EI	
C9	RET	

#### PRIX POKE

The popastic Steven Kemp has shown boundless generosity before by sending in some tips and he's just unleashed more frightening quantities of the stuff by sending me another batch of Speccy game help. Firstly here's a short but effective poke for the recently rereleased cheapy classic *Grand Prix Simulator*. Bash it in, type RUN, press ENTER and start your tape from the beginning.

1 REM Grand Prix Simulator by  
Steve  
55 POKE 53152,201  
100 MERGER "" : RUN

Brilliant. And what reward does Steven want for this spiffing display of tipping? Or, more to the point, what does he have any chance of actually getting? Obviously aware he's dealing with a cheapskate his only request is for me to say hello to hacking star Miktor. So.. "Hello Miktor". (Was that OK?) Thanks again Steven!

Robin Alway



#### PURE HYPE

I recently encountered a superb shareware program which goes by the name of *Hype*. This nifty little piece of software owes a lot to the Mac program *Hypercard*. The idea is that you create a series of cards which are interactive so that you by clicking on certain areas of one card you can leap to another of your choice. There may a large number of different routes to get through the pack.

What's more, sound can be added, making the program perfect for educational environments.

Wooleysoft has acquired the rights to the program and has launched an updated medium-resolution version which makes extensive use of text, graphics and sound. The new version runs from within GEM and works with all STs. The full package costs £19.95 and is available from Wooleysoft, Humblesknowe Cottage, Ramoyle, Dunblane, Perthshire, Scotland.

#### STE SUPER RAM

We all know that the STE has got some serious hardware that's received very little attention from third party manufacturers. That's all set to change with the release of Fast Technology's Turbo 20 adaptor.

This American company specialises in souping up the ST range and the Turbo 20 does just that. The board which runs on a 1040STE, has an onboard clock and enables the user to upgrade memory to a massive 14Mb. A special version will be available for the Stacy and the Mega STE offering expansion possibilities of 10Mb.

With this kind of RAM upgrade possible, the STE looks set to finally shrug off its image and become the only choice for DTP, music and video applications. Combine 14Mb of memory with one of the widely available graphic expansion cards and you have true power without the price.

Contact Fast Technology at PO Box 578, Amdover, MA01810 or telephone 0101 508 475 3810.

#### DOWN AT THE SYNTHWORKS

Evenlode Soundworks has a reputation for producing slick front end editors for a wide range of synthesisers. These programs mean you don't have to mess around with the tiny LCD display on the synth and can modify sounds and sequences via your ST.

The latest Synthworks programs are ready to ship and cover the Korg range. The M1, M1R, M1EX, M1REX, T1, T2, T3 and M3R are all covered.

## WE MUST BE MAD

Due to massive bulk buying and low cost advertising we can offer you high quality European manufactured disks at these extremely low prices

**3.5" DSDD DISKS 31p** INC VAT + LABELS

250 + @29p each; 500 + @ 28p each; 1000 + @ 27p each  
ALL DISKS CERTIFIED 100% ERROR FREE

**SONY 3.5" 38p** 3.5" DSHD .....65p  
5.25" DSDD .....19p  
5.25" DSHD .....36p  
**DSDD BULK**

100 Capacity Disc Box.....3.75	50 Capacity Disk Box.....3.25
Mouse Pockets .....1.50	Mouse Mat .....1.75
Printer Stand .....3.75	Amiga Dust Cover .....2.50
Posso Box .....15.00	Atari Dust Cover .....2.50

Amiga 512K RAM Expansion with clock .....32.00  
Amiga/Atari External Drive .....54.95

**THIS MONTHS 200 3.5" DSDD DISKS  
SPECIAL OFFER + 2 x 100 CAP BOXES 64.95**

Please add £2.85 p&p/next day £7.50. Cheques/POs to  
PLC COMPUTER SUPPLIES (Dept NCE)  
11 Meakin Avenue, Clayton,  
Newcastle, Staffs ST5 4EY.

**TELESALES HOTLINE  
0782 212970**



**£1000 REWARD**

THIS CAMPAIGN IS ORGANISED BY  
**ELSPA**  
EUROPEAN LEISURE SOFTWARE PUBLISHERS ASSOCIATION

ANY INFORMATION ON PIRACY SHOULD  
BE PASSED TO F.A.S.T. (THE FEDERATION  
AGAINST SOFTWARE THEFT)

**TELEPHONE 0386 833501**

FOR INFORMATION  
LEADING TO A  
PROSECUTION  
& CONVICTION



**PIRACY  
IS THEFT**



The programs are accessed via a graphic interface and give access to all the synthesiser's inner workings. An effects library, a drum kit editor, sequencer utilities, library functions, computer aided sound creation, patch identification and an on-screen keyboard are all included in the program.

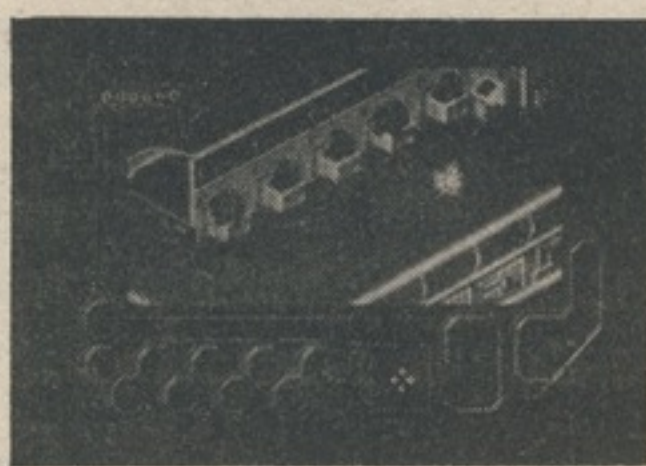
If you own one of the Korg synths and are fed up with the LCD display then write to Evenlode Soundworks at The Studio, Church Street, Stonesfield, Oxford, OX7 2PS or phone 0993 898484 and be ready to part with £165.

#### MIDI BASH

Nobody could have predicted how successful MIDI music creation was going to be. However its effects on the music and computer industry have been far reaching and this is reflected in the amount of third party support for MIDI related products. This interest is reflected in the fact that there will be a MIDI music show aimed at anyone who's into making music the electronic way.

The show will take place from April 26-28 at the Novotel hotel in Hammersmith. Special events will take place during the show, including seminars from well known personalities on such subjects as live performance, studio recording and home studio work. Of special interest to readers of this column will be the seminar on Atari MIDI sequencers, although "Programming drum machines - they don't have to sound like robots" could prove to be quite amusing. The MIDI Music show is being run by Westminster Exhibitions,

## VORACIOUS SPACE MACROBE WITH AN APPETITE FOR PLASNOGLASS

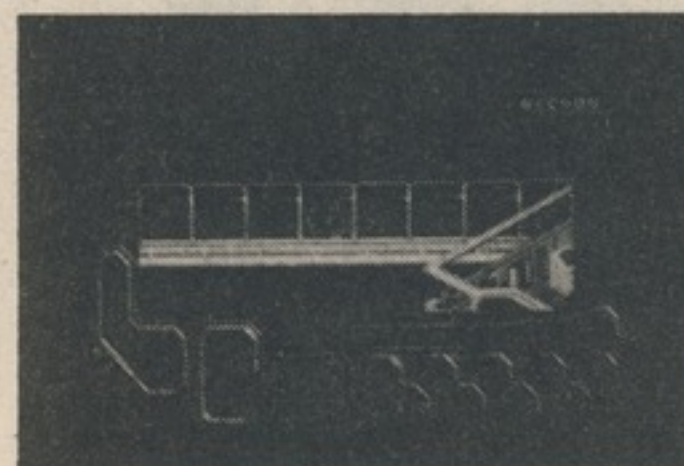


• *Wrecker is just the game for people for like firing at squidgy flying things.*

Audiogenic reckons that its new game, *Wrecker*, is going to be a smash with ST space adventure fans. In it you take on the role of a space beacon keeper. Normally this is quite a cushy job.

All this is about to change, however, as your beacon has just gone to red alert. A virulent space macrobe is coming your way and if it reaches you the beacon will self destruct. Your task is to thwart the malevolent virus by stopping it gorging itself on its favourite meal: plasnoglass.

You control a team of droids and the beacon via a series of



• *But you also have to keep an eye on the way the beacon is functioning.*

icons. Droids can be manufactured, programmed and recharged from a series of special operations rooms. Atmosphere and gravity have to be controlled for obvious reasons and other crew members can be woken from cryogenic sleep.

Inside the station, your character can move about freely. This means accessing tunnels, lifts, zippways and glassrooms. You can get into a space suit and move around outside the station or get into a space hoover and fly further afield. The game is pencilled in for a mid-April release.



• *Where's Sigourney Weaver? Aren't women allowed on space beacons?*

and for further information telephone 081 549 3444.

#### PROXIMITY ALERT

It would seem that the ST DTP market is alive and kicking as both *Pagestream* and *Proxima* are due for major updates.

*Pagestream 2* will be a colour version and we're told by Softlogic that will be a vast improvement on all previous versions. *Pagestream's* big opposition is *Proxima* from Network News Services which has just been

updated to version 2 with lots of new features; text will change foreground and background colours as appropriate; letters can be subjected to various distorting effects such as blocking, x-raying, twisting, rotating or slanting; the editor will work in columns or in a word-processing mode; block editing, cut and paste and a spell checker have all been incorporated and the whole speed of the program has been tweaked.

Graphic objects can be created with a CAD module. These graphic items can

exist on up to 32 million levels (memory permitting). IFF, TIF, IMG, GEM, DXF, IGES and HGPL file formats can be incorporated into your pages. A PostScript font editor will be included in the package and these can be displayed on screen in either bitmapped or vector forms. Full colour separation output will be available, all in virtual colour.

Contact Network News Services, Dock Road, Tilbury, Essex, or telephone 0375 859103.

Andy Hutchinson

# COMPUTER EXPRESS

Britain's biggest selling computer weekly, packed with the latest news, reviews and technical tips for your machine.

**SUBSCRIBE NOW  
AND SAVE 12P AN ISSUE**

**13 issues for just £9.99 OR 54 issues for only £39.99**

or to put it another way ...

get your copy of NCE delivered to your door for just 76p a copy!

To take advantage of this money-saving offer, complete the coupon opposite and return it immediately or, better still ... telephone our credit card hotline right now on 0458 74011 to book your guaranteed copy of New Computer Express every week.

**YES!** Please enter my subscription to New Computer Express at the special discount rate ticked below.

<input type="checkbox"/>	UK	13 issues	£9.99
<input type="checkbox"/>	UK	54 issues	£39.99
<input type="checkbox"/>	Europe	54 issues	£72.40
<input type="checkbox"/>	Rest of World	54 issues	£97.80

N.B. All overseas subs are sent by Airmail for speed and safety.

Name

Address

Postcode

Tel

I wish to pay by (please tick as appropriate)

Access ☐ Visa ☐ Cheque ☐ 0 ☐

Card No

Expiry date

Please make cheques/PO payable to Future Publishing Ltd and send with this coupon to:

NEW COMPUTER EXPRESS, FREEPOST, SOMERTON, TA11 7BR.



# WHOLE WIRED WORLD

A quality hallmark for Atari software, Intel loses copyright on a certain three figure number and much more from our globetrotting reporter, Steve Gold.

## INTEL LOSES BATTLE OVER 386 COPYRIGHT

Intel has lost its court battle with Advanced Micro Devices (AMD) over the use of the number '386' in its family of 32-bit microprocessors.

Intel remains unbowed by the US court decision, however. In a statement, Thomas Dunlap, the company's vice president and general counsel, said: "As a result of this decision, we will refer to the 'i386tm' microprocessor and 'Intel386(tm)' microprocessor in order to more clearly distinguish Intel products from imitations."

Unsurprisingly, AMD's chairman Bill Sanders said that the court's decision was a wise choice: "It removed another obstacle to Advanced Micro Devices' breaking Intel's monopoly in the IBM-compatible 32-bit microprocessor arena."

He added: "The ruling is also an important one for the manufacturers of

personal computers, who are now protected from legal harassment by the leading supplier of 386 microprocessors if they wish to use the number '386' in their product names."

So what does the removal of copyright on the numbers 386 mean to the average computer user in the street? The chance of cheaper PCs, that's what.

While Intel has kept its prices high on the chips that drive PCs, AMD — as well as several other PC makers — have been working on 386-compatible chipsets which will cut the cost of high-powered PCs. If they can call their chips 386s as well, then there will be no confusion in the marketplace.

## VARIOUS FORMATS, ONE PRICE

Strategic Studies has begun shipping an interesting fantasy/strategy game called *Warlords* in the US. The package is available for the PC and Commodore

Amiga, with versions for the Apple Mac and Atari ST expected very soon. Unusually for a multi-format release, it will cost \$50 in all versions.

According to the Californian software house, the program invites you to destroy enemy castles in "ruthless economic warfare while turning their own castles into impregnable fortresses."

For further information Strategic Studies can be contacted on 0101-415-932-3019.

## ATARI MARK OF EXCELLENCE

Expect to see a new sticker on Atari product releases from the US.

The 1,300-strong (and growing) Atari Users Association has begun applying its own 'mark of excellence' to ST products and word is that software houses are sitting up and taking notice.

According to the official blurb from the AUA, its own members vote on whether a new product deserves the mark and, if it does, the group awards it to the software house concerned.

The AUA hopes this scheme will inspire software/hardware developers to produce ever more excellent products for the ST marketplace.

Contact: AUA, PO Box 123, Canonsburg, PA 15317, United States. BBS — Tel: 0101-412-746-8699.

## CUTTING DEVELOPMENT COSTS

One of the biggest problems about developing serious software for the Amiga is that, unless the author/software house charges the earth for the package, the development costs take an awfully long time to trickle back into the designer's bank account.

Techbyte, a growing software house in Montreal, Quebec, reckons it has the answer in the shape of its Software Portability Environment (SPE). SPE is a multi-platform software development system, the idea being that you create your software under SPE on one machine and then let SPE convert it for use on another computer.

The reality of the situation is, of course, that nothing is ever quite that simple. Still, if the program saves a

recode, or allows packages to be swiftly ported onto the Commodore Amiga it can't be at all bad.

According to Bill Gattis, president of Techbyte, the programming environment on the Amiga was designed in close liaison with Commodore US.

He describes the Amiga project as "an extremely appropriate extension to the Software Portability system, especially in view of the impressive capabilities of the Amiga in the areas of graphics, animation and multimedia."

Pricing for the SPE system on the Amiga depends on a number of variables, such as site licenses, the number of users and whether the licensee intends to generate standalone code from the program. Despite this, Techbyte reckons that its licencing terms are extremely reasonable.

Techbyte can be contacted on 0101-514-670-9452.

## BOOST FOR PEN-DRIVEN PCS

This time next year, don't be surprised if your notebook computer doesn't have a keyboard, at least not if Microsoft plans reach fruition.

The operating system software giant has announced that 21 computer manufacturers have committed themselves to the fledgeling Microsoft Pen Windows operating system.

According to Microsoft, specific details about products and release dates will be issued later by the individual hardware manufacturers, some of which include Canon, Grid, Fujitsu, Hitachi, NCR, Samsung, Sanyo, Seiko Epson, Sharp, Toshiba and Wang.

Pen Windows, which has been under development by Microsoft since 1988, is a graphical operating system designed to provide the best platform to take advantage of the benefits of a pen while using a computer. Several manufacturers are expected to release stylus-driven computers before the end of the year.

A key feature of these computers will be the ability to recognise handwriting and convert them into standard ASCII data. ■

## ATARI STARTS SYSTEM 7.0 BANDWAGON STARTS ROLLING



Apple is reported to be putting the finishing touches to its System 7.0 operating system software. The computer giant has just sent out final beta versions of the software to more than 13,000 hardware and software developers around the world.

"We're in the final phases of preparing System 7.0 for release to Macintosh users," revealed Jim Davis, Apple's director of System Software Marketing. "We're dotting the i's and crossing the T's, and we should be shipping System 7 to customers in the first half of this year."

Apple is hoping that in conjunction with the trio of new Macs launched at the end of last year, System 7.0 will give MS-DOS a real run for its money. Watch this space!

• Will the combination of the budget Macs and System 7.0 threaten DOS domination?



# VIRUS FREE PD

## Amiga Public Domain Software

OVER 1300 PD DISKS AVAILABLE

PD SOFTWARE HELPLINE

THOUSANDS OF SATISFIED CUSTOMERS

OVER 100 DISKS ADDED EVERY MONTH

MOST ORDERS SENT WITHIN 24 HOURS

ALL DISKS DISTRIBUTED VIRUS FREE

### PD STARTER PACK.

*Only £5.00 inc P&P*

Essential Utilities 1  
Dynamic Demos 3  
Demons Slides 3  
Reflections Music  
and our catalogue

BUY ANY TEN PD  
DISKS AT £2.00 EACH.  
AND PICK ANOTHER  
**5 FREE !!!**

15 PD DISKS = £20.00 inc 5 FREE  
ONLY £1.00 FOR EACH SUCCESSIVE DISK.

EG: 16 PD DISKS = £21.00

17 PD DISKS = £22.00

20 PD DISKS = £25.00

Call for details of discounts on bulk orders

## OVER 1300 PD DISKS CATALOGUED

### ADULT GAMES AVAILABLE OVER 18's ONLY

#### GAMES

843 Metagalactic Llama's  
1064 Lettrix (great)  
1020 Master of Town  
1204 Wet Beaver Tennis  
849 The Holy Grail  
850 Breakout Con Kit  
830 Quiz Master  
670 Monopoly  
595 Cave Runner  
1209 Wacko in  
Wonderland  
832 Agatron Games  
531 Blizzard  
530 Pacman  
525 Tennis 1 meg  
509 Paradroid  
1207 Frantic Freddy  
505 Drip  
255 Flaschbier  
856 Xenon 3 etc  
117 Moria RPG  
154 Track Record 1 meg  
534 Games Disk 1  
1179 Chess etc  
1184 Mastermind etc

### UTILITIES

941 Art of Virus Killing  
659 Essential Utils 1  
1206 Mandelbrot Maker  
567 Noisetracker etc  
152 Quick Base  
312 Word Wright  
337 Ultimate Utils  
334 Le' Copiers  
613 202 Utilities  
341 57 Utilities  
1043 MVK V2.0  
336 Full Force Utils  
342 Acu Utils 22  
1208 Database Wizard  
1078 Essential Utils 2  
1099 Pro Tracker 1.1a  
1202 RSI Demo Maker  
1146 Icon Magic  
1180 Amic  
1159 Red Devil Utils 6  
1158 Red Devil Utils 7  
1157 Exorcist Killers  
1151 C-Light  
1156 Driver Generator

### TOP TEN

1078 Essential Utils 2  
1099 Protracker 1.1a  
1079 To Kill a Mole (16)  
1209 Wonderland  
1202 RSI Demo Maker  
659 Essential Utils 1  
1206 1162 Home Utils  
1117 Budbrain 2  
1043 MVK V2  
1064 Lettrix

### MUSIC

1081 Kick Squad 1 meg  
1087 Glidescope III  
1089 Sonix Systems 4  
1093 Hanky Panky  
1094 Intuition Finland  
1126 Sound of Silents  
1154 TMN Turtles  
1155 Crusaders  
1174 Jakes Music  
1181 True Energy

### EXCLUSIVE WARE CROSSED SYSTEM

Mega Fast Shoot Em  
Up, Silky smooth  
scrolling digitised  
SFX & speech multiple  
weapons and more.

Exclusive to us  
**Only £3.99 inc P&P**

Crossed system is  
NOT PD

### DO THE BART MAN

A 3 disk version of  
the No1 hit single

**Only £3.00 inc P&P**

### PROTRACKER COLLECTION

Includes Protracker  
v1.1a and 9 great  
instrument disks.

**10 disks,  
Only £7.95 inc**

FOR JUST £1.00 YOU CAN RECEIVE OUR HIGHLY  
PRAISED CATALOGUE DISK, GIVING DETAILS OF  
OVER 1000 PUBLIC DOMAIN DISKS. OR ORDER  
3 OR MORE OF THE ABOVE AND RECEIVE IT  
FREE OF CHARGE.



**3 DISKS OF CLIP-ART NOW ONLY £3.00. ALMOST 400 PICTURES**



**Catalogue Disk Available at £1.00 sent FREE with all orders**

*Send Cheque, or Postal Order to:*

**VIRUS FREE PD** (Dept NCE), 23 Elborough Rd, Moredon, Swindon, Wilts, SN2 2LS, England.

**Tel: 0793 512321 Fax: 0793 512075**

**All prices include P&P in UK.\*** Minimum order of 3 Disks, overseas orders welcome but please send Euro cheque or bankers draft with order. Please add £3.00 towards postage and packing.



# Evesham Micros

ALL PRICES  
INCLUDE VAT  
& DELIVERY

Buy with confidence from one of the longest established companies in their field, with a reputation for good service and prices. We have invested heavily in a computer system to enable our Telesales staff to provide up-to-the minute stock information, coupled with highly efficient order processing. Our fully equipped Workshop enables us to carry out almost any repair on the premises. We feel sure that you won't be disappointed if you choose Evesham Micros.

LOOK WHAT ELSE YOU GET  
WHEN YOU BUY AN AMIGA  
FROM **Evesham Micros**

Tracksuit Manager 90  
Lost'N Maze  
Tank Battle

## THESE FABULOUS GAMES:

Subbuteo  
Discman  
Nigel Mansell

Treasure Trap  
Battle Squadron  
Jaws

Block Alanche  
Diet Riot

PLUS! A wordprocessor and spreadsheet

AMIGA

SPECIAL  
DEALS

## AMIGA 500 SCREEN GEMS PACK

Top-selling A500 package includes  
'Night Breed', 'The Beast 2',  
'Back to the Future 2', 'Days of Thunder',  
'Deluxe Paint II' and TV modulator.

A500 SCREEN GEMS PACKAGE ..... £ 379.00

SPECIAL! A500 Screen Gems Package  
inc. 512K RAM Clock Upgrade ... £ 399.00

A500 Screen Gems Package PLUS 3 1/2" Drive ..... £ 430.00

A500 Screen Gems Package including  
512K RAM/Clock Upgrade AND 3 1/2" Drive ..... £ 450.00

## AMIGA 500 CLASS OF THE 90'S PACK

Includes A501 512K RAM Upgrade, TV Modulator, 8 software  
Titles, 10 Disks, Mouse Mat, Video Tape and more ....

A500 CLASS OF THE 90's Package ..... £ 549.00

A500 Class of the 90's Pack PLUS 3 1/2" Drive ..... £ 600.00

## AMIGA 1500 STARTER PACK

Includes A1500 computer (1Mb RAM, 2 x 3 1/2" Drives, 8 expansion slots),  
Commodore Hi-Resolution Colour Monitor, plus Software including: 'Deluxe  
Paint III', 'Battle Chess', 'Sim City' and 'The Works' (business software).

AMIGA 1500 STARTER PACKAGE ..... £ 949.00

## AMIGA 500 COMPUTER GENUINE U.K. VERSION

Features a 512K Commodore Amiga 500  
computer, 1Mb Internal Drive, TV Modulator,  
Mouse, Power Supply, KickStart 1.3, etc.

Amiga 500 package as above ..... £ 329.99

A500 Pack as above, with  
512K RAM / Clock Upgrade fitted ..... £ 359.99

A500 Pack with external 3 1/2" Drive ..... £ 379.99

A500 Pack with external 3 1/2" Drive and  
512K RAM / Clock Upgrade fitted ..... £ 405.00

## COMMODORE A590 HARD DISK

Good quality Commodore Hard Disk unit, including its own PSU and built-in cooling  
fan. Features sockets for up to 2Mb of on-board FASTRAM expansion (see below). 80ms  
Access time, with up to 2.4Mb/sec. transfer rate. Autoboots when used with Kickstart 1.3.

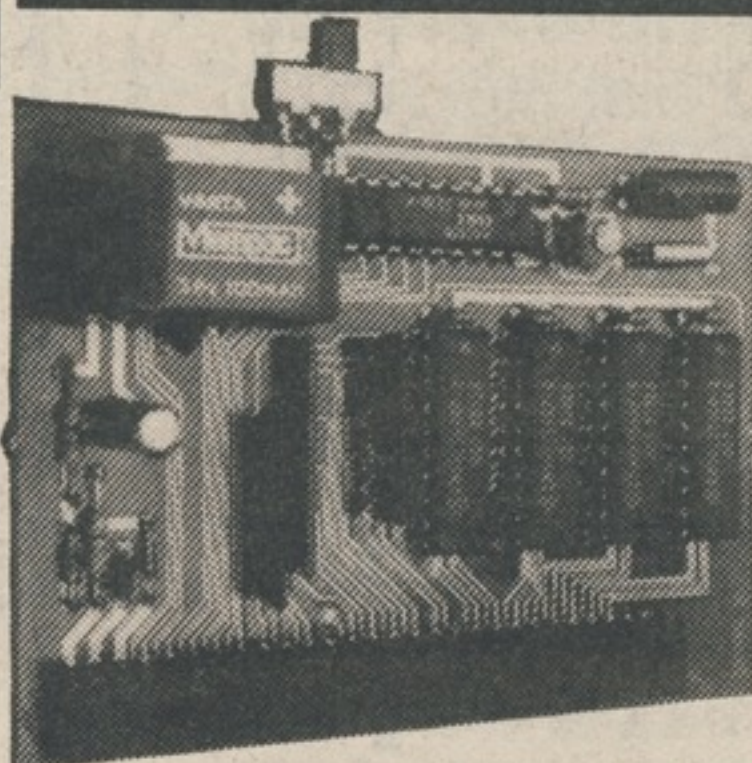
Commodore A590 Hard Drive ( 20Mb ) ..... £ 279.00

A590 Hard Drive with faster NEC SCSI 40Mb Drive fitted .... £ 479.00

A590 Hard Drive with faster NEC SCSI 100Mb Drive fitted ... £ 669.00

A590 RAM UPGRADES	A590 RAM Upgrades are fitted free of charge when bought with an A590.	512K Upgrade ..... £ 31.95	1MB Upgrade ..... £ 59.95	2Mb Upgrade ..... £ 99.95
----------------------	---	----------------------------	---------------------------	---------------------------

## A500 SOLDERLESS RAM UPGRADES



512K  
RAM/CLOCK  
UPGRADE

ONLY £32.95

including VAT and delivery

### 512K RAM/CLOCK EXPANSION FEATURES:

- ☆ Direct replacement for the A501 expansion
- ☆ Convenient On / Off Memory Switch
- ☆ Auto-recharging battery backed Real-Time Clock
- ☆ Compact Unit Size : Ultra-neat design
- ☆ Only 4 low power consumption FASTRAMs

512K RAM Expansion also available without clock for only £27.95

## 1.5MB RAM EXPANSION BOARD

- ☆ Fully populated board increases total RAM capacity in an Amiga 500 to 2MB !
- ☆ Plugs Into trapdoor expansion (as with 512K unit) ; connects to GARY chip
- ☆ Includes Auto-recharging battery-backed Real-Time Clock
- ☆ Socketed FASTRAM ICs for accommodating up to 1.5MB RAM

Unpopulated RAM board with clock .....	£ 39.95
RAM Board as above, with 512K FASTRAM installed .....	£ 59.95
RAM Board as above, with 1MB FASTRAM installed .....	£ 74.95
RAM Board as above, with 1.5Mb FASTRAM installed ....	£ 89.95

N.B. : The expansion board requires Kickstart 1.3 to operate - Kickstart 1.3 upgrade available from us for £29.95

## Amiga & ST 3 1/2" Drives



- Very quiet
- Slimline design
- Cooling Vents
- Sleek, high quality metal casing
- Quality Citizen/Sony mechanism
- On / Off switch on rear of drive
- Throughport connector (Amiga)
- External Plug-in PSU (Atari ST)
- Full 1Mb Unformatted Capacity
- Long reach connection cable

ATARI ST VERSION :  
**£59.95**

AMIGA VERSION :  
**£54.95**

5 1/4" External 40 80 Track Drive also available for only £99.00

## LYNX Hand-held Games Console

Only £119.95

INCLUDING FREE  
'CALIFORNIA GAMES'  
MULTIPLAYER  
GAMECARD

LYNX GAMECARDS	Electro Cop .....	£19.95	Xenophobe .....	£19.95
	Slime World .....	£19.95	Blue Lightning .....	£19.95
	Klax .....	£19.95	Gates of Zendocon .....	£19.95
	Roadblasters .....	£19.95	Chips Challenge .....	£19.95
	Paperboy .....	£19.95	Shanghai .....	£19.95
	Rygar Warrior .....	£19.95	Rampage .....	£22.95
	Zolar Mercenary .....	£19.95	Gauntlet 3 .....	£22.95
	Ms Pacman .....	£19.95		



ALL PRICES  
INCLUDE VAT  
& DELIVERY

sted heavily in  
ing. Our fully  
sham Micros.

Alanche  
Diet Pilot

TER  
ON

ga 500  
modulator,  
3, etc.

£ 329.99

£ 359.99

£ 379.99

£ 405.00

DISK

and built-in cooling  
n (see below). 80ms  
d with Kickstart 1.3.

£ 279.00

ed .... £ 479.00

ted ... £ 669.00

£ 31.95

£ 59.95

£ 99.95

ives

SION :

95

SION :

95

only £99.00

console

£19.95

£19.95

£19.95

£19.95

£22.95

£22.95

## NEW! ST COMPATIBLE REFERENCE HIGH QUALITY SCSI HARD DRIVES

Incorporating high speed, fast access NEC SCSI mechanisms, and featuring ICD interfaces/software, this is probably the best hard drive package for the Atari ST. Available in either 40Mb or 100Mb versions, the mechanisms have an average access time of 28ms and feature data transfer rates of over 415 Kb/sec. Package includes full ICD installation software enabling full control over formatting and partitioning of hard disc. Supplied complete with external power supply - beware of other hard disk drives which take their power from the computer!

REFERENCE-40 (40Mb version) ..... £ 399.00

REFERENCE-100 (100Mb version) ... £ 599.00

## SCOOP PURCHASE!

PHILIPS 8CM852  
PROFESSIONAL



**Dont miss out on this exceptional  
opportunity to buy a top quality,  
dedicated Medium Resolution  
Monitor, made by Philips, one of the  
industry's leading manufacturers!**

14" Colour Medium Resolution Monitor • Dot  
pitch 0.39mm • Dark Glass screen for superb  
enhanced clarity & reduced glare • SCART  
and RGB TTL sockets • Single channel (mono)  
audio output • Built-In Swivel-base stand

**£219.00** Please state either  
ST or AMIGA cable  
inc.VAT. Delivery & cable when ordering

**HURRY WHILE STOCKS LAST!**

## PHILIPS 15" FST TV/MONITOR

With its dedicated monitor input, this  
model combines the advantages of a  
high quality medium resolution  
colour monitor with the convenience  
of remote control Teletext TV - at an  
excellent low price!



**£269.00**  
inc. VAT, delivery & cable

## TRUEMOUSE

(ST OR  
AMIGA)

WE GUARANTEE that this is  
the smoothest, most  
responsive and accurate  
replacement mouse you can  
buy for the ST or the Amiga.  
Excellent performance,  
amazing low price!



**ONLY £17.95**  
(PLEASE STATE MODEL WHEN ORDERING)

ATARI



**'KICK OFF'  
WITH THIS  
DEAL FROM  
Evesham  
Micros!**

## FREE WITH EVERY STE/STFM PACKAGE :

'Kick Off 2' (RRP: £19.99)

'Tracksuit Manager' (RRP: £19.99)

'Subbuteo' (RRP: £24.99)

Quickshot 3 Turbo Joystick (RRP: £9.99)

**TOTAL RRP OF EXTRAS: OVER £74.00!**

ALL OUR ST prices include mouse, user guide, etc. PLUS 5  
Double Sided disks full of specially selected Public Domain  
software including paint program, two wordprocessors, games,  
graphics & sound demos, desk accessories and utilities.

## EVESHAM MICROS PRICE PROMISE - WE WILL BEAT ANY GENUINE ATARI ST PACKAGE OFFER ON A LIKE-FOR-LIKE BASIS

### 520 STE 'TURBO PACK'

Includes an Atari 520 STE with 1Mb  
Drive, joystick, plus a high quality  
selection of software including :

'Indiana Jones & Last Crusade'  
'Blood Money'  
'Impossible Mission 2'  
'Super Cycle'  
'Human Killing Machine'  
'Out Run'  
'Dragons Breath'  
'Anarchy'  
'Hyper Paint 2' (STE version)  
'FIRST BASIC'  
'Music Maker 2' (STE version)  
'STOS' Game Creator

**£359.99** inc.VAT &  
delivery

£389.99 WITH 1MB RAM FITTED

£439.99 WITH 2MB RAM FITTED

£519.99 WITH 4MB RAM FITTED

Mega ST1 with SM124 mono monitor ..... £ 599.00  
Mega ST1 as above, upgraded to 2Mb RAM ..... £ 769.00  
Mega ST1 as above, upgraded to 4Mb RAM ..... £ 879.00

### 520 STFM 'DISCOVERY PACK'

High quality, good value package  
based around the 520 STFM  
computer including 512K RAM, 1Mb  
Floppy Drive and built-in TV  
modulator. Also supplied is :

'STOS' Games Creator • 'Outrun' •  
'Carrier Command' • 'Bomb Jack' •  
'Space Harrier' • 'Neochrome' •  
'FIRST BASIC' • 'Atari ST Tour'  
Plus 'Discovering your Atari ST' Book

**£269.99** inc.VAT &  
delivery

£299.99 WITH 1MB RAM FITTED

Mega ST2 with SM124 monitor (2Mb RAM) ..... £ 849.00  
Mega ST4 with SM124 monitor (4Mb RAM) ..... £ 1099.00  
SM124 monochrome hi-res monitor ..... £ 99.00

### 1040 STE 'EXTRAS PACK'

Superb starter package, consisting of  
a 1040 STE with an excellent  
selection of serious/leisure software.

The package includes :

Kuma Wordprocessor • Kuma  
Spreadsheet • Kuma Database  
Kuma Business Graphics •  
'FIRST BASIC' • 'Hyper Paint' •  
'Prince' • 'STAC' Adventure Creator

**£449.99** inc.VAT &  
delivery

£529.99 WITH 2MB RAM FITTED

£609.99 WITH 4MB RAM FITTED

## ST SOLDERLESS MEMORY UPGRADES

### SIMMS RAM EXPANSION SYSTEM

- ✓ Fits STF, STFM or MEGA series machines in minutes!
- ✓ Uses SIMMS RAM Modules for Effortless Upgradeability
- ✓ Probably the neatest ST RAM Upgrade available!

Upgrade the memory of your ST in minutes and easily with our new,  
fully software compatible RAM upgrade board. Designed for pre-STE  
machines, the unit accepts SIMMS slot-in memory modules, making  
RAM fitting simplicity itself. No electronics knowledge needed!  
Available with or without RAM modules. Allows upgrade in stages of  
1Mb, 2 / 2.5Mb and 4Mb, as and when necessary. Straightforward  
installation - full, comprehensive instructions provided.

N.B. Due to the large variance in design of the Atari ST, there is a small  
minority of boards in existence which may require a little soldering.

RAM Upgrade with board unpopulated ..... £ 59.95  
RAM Upgrade With 512K RAM Installed -  
upgrades a 520 to a total of 1Mb RAM ..... £ 89.95  
RAM Upgrade With 2Mb RAM Installed -  
upgrades a 520 1040 Mega1 to 2 2.5Mb ..... £ 174.95  
RAM Upgrade With 4Mb RAM Installed -  
upgrades a 520 1040 Mega ST to 4Mb ..... £ 284.95

also available ....

### PLUG-IN 512K RAM UPGRADE FOR ANY MODEL OF 520 ST

Now there is a simpler, faster and more  
effective method of upgrading your humble 520  
ST to 1Mb RAM! Our plug-in 512K memory  
upgrade unit offers excellent value for money,  
requiring no soldering or special technical  
know-how. (Not suitable for STE machines.)

**ONLY £69.95** INCLUDING VAT  
& DELIVERY

## PRINTERS

PRICES INCLUDE VAT, DELIVERY & CABLE

star

EVESHAM MICROS SPECIAL OFFER -  
ALL STAR PRINTERS INCLUDE 12  
MONTHS ON-SITE MAINTENANCE

**Buying  
a Star  
LC10?**

For a limited time, we  
are offering the Star  
LC-10 Mk.II at the same  
price of an LC-10!

Get the latest faster  
version for just

**£159.00**

Price inc. VAT, delivery, cable & 1 Year On-Site Warranty

### CITIZEN PRODOT-24C PROFESSIONAL COLOUR PRINTER

**A Professional Printer at a budget price!**

The ProDOT-24 is a highly versatile letter quality printer, with levels  
of speed and reliability enabling it to handle sustained high levels of  
output with ease. It features an amazing array of facilities normally  
found on far more expensive models, yet are supremely easy to use.

200 / 66 cps print speed • 5 letter quality fonts • Excellent compatibility,  
with Epson, IBM & NEC emulation • Full control from front-panel •  
7 Colour output; resolution up to 360 dpi • Fast set up • Parallel & Serial  
interfaces • 2 Year Manufacturers Warranty • Complete with cable

Citizen ProDOT 24 Normal RRP: £ 746.35 inc.VAT

**SPECIAL OFFER! £269.00** INCLUDING VAT,  
DELIVERY & CABLE

OLIVETTI DM100S - 9-pin printer 200 30cps  
**NEW LOW PRICE! ONLY £ 115.00**

including VAT, delivery & 1 Year on-site Warranty

Star LC 200 9-Pin Colour, 4 fonts, 180/45cps ..... £ 209.00  
Star LC 24-10 24-Pin multifont, 180/60cps ..... £ 215.00  
Star LC 24-200 24-Pin multifont, 200/67cps ..... £ 249.00

# Evesham Micros

RETAIL SHOWROOMS

Unit 9 St. Richards Road  
Evesham  
Worcs WR11 6XJ  
☎ 0386 - 765180  
fax : 0386 - 765354  
Open Mon - Sat, 9.00 - 5.30

5 Gilson Road  
Cambridge CB1 2HA  
☎ 0223 - 323898  
fax : 0223 - 322883  
Open Mon - Sat, 9.00 - 5.30  
IBM Dealer • Corporate Specialist

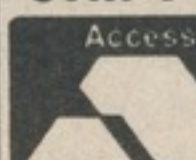
1762 Pershore Road  
Cottrelage  
Birmingham B30 3BH  
☎ 021 - 458 4564  
fax : 021-433 3825  
Open Mon - Sat, 9.00 - 5.30

**ALL PRICES INCLUDE VAT AND DELIVERY**

Same day despatch whenever possible. Express Courier Delivery £5.00 extra.

MAIL ORDER DEPARTMENT

Unit 9 St Richards Road, Evesham, Worcs WR11 6XJ



Call us now on ☎ 0386-765500

Lines open Mon-Sat., 9.00 - 5.30. Fax: 0386-765354  
Technical support (open Mon-Fri, 9.30 - 5.30): 0386-40303

VISA



Send an Order with Cheque, Postal Order or  
ACCESS/VISA card details. Please allow 5  
working days for Personal Cheque clearance.

Government, Education and PLC orders welcome  
All products covered by 12 Months Warranty  
All goods subject to availability, E. & O.E.



# CIRCUIT CITY

Turn your breadboard ideas into professional PCBs. Keith Pomfret shows you a program which can turn your PC into a PCB designer.

**Y**ou may have the best hardware idea in the world but no-one's going to buy it if it looks like metal spaghetti welded to an old biscuit tin. Open up your PC and you'll see row upon row of neat green cards purpose designed to elegantly arrange the various circuits in a tidy configuration.

The manufacture of these boards is still generally the domain of the specialist company, but it's possible to do all the design work and produce professional PCB designs using your PC.

The simplest way to do this would be to choose an art package in which you could define patterns or brushes and define all of the symbols and tracks that you would be likely to need. This isn't the most elegant solution, but will work and I've seen quite a few commercial designs that started as a basic PCB design in an art package.

At the other end of the power and cost spectrum are full blown CAD (computer aided design) packages that cost thousands and need a power PC or workstation running some exotic operating system to function. Again, this is a workable solution but far beyond the budget and requirement of most casual users.

Somewhere holding the middle ground is Easy PC from Number One Systems. When it hit the carpet behind the front door I was inclined to disregard it on account of its sub £100 price tag, but a need to design a gearbox control module for the family coach meant that it soon saw use.

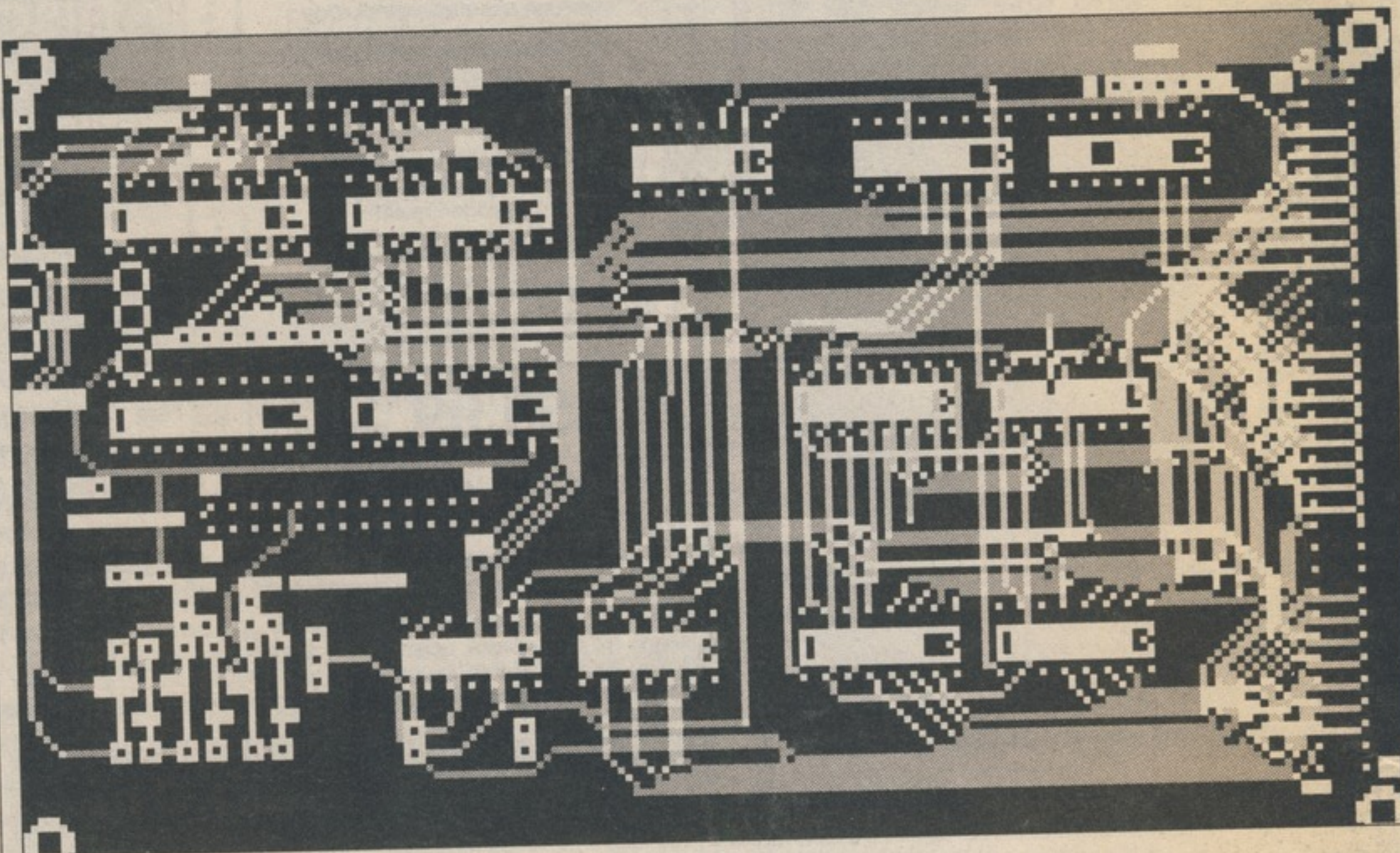
A software product is only as strong as its manual and a design program specialising in a discipline that is probably new to most users must be intuitive and simple to understand. With the review pack came a set of demo files that were in essence a complete walk through giving a demonstration of the package's features and their use.

Easy-PC describes itself as a Printed Circuit Board Layout and Circuit Diagram Draughting Program. Installing on the office PC (a VGA 386) was as simple as copying all the files to a pre-prepared directory. The office machine is a Silica/Goldstar 386 and is a pretty powerful piece of kit. However, Easy-PC will run on any PC that is at least a 512K CGA XTclone.

Design work of any kind can be mathematically intensive, but the Easy-PC program managed OK without a math co-processor. Once installed and running,

## FEATURES

- Very quick
- True pad sizes shown on screen.
- Track width accurate on screen
- All sizes are selectable
- Up to eight layers of track possible
- Top and bottom silk screen layers
- Complete library compilation and use
- Creation of PCB and circuit diagrams
- Output to dot matrix, plotter and laser printers
- Duplicate facility for instant replication of repeated circuits.



• Professional output ready for manufacture into a PCB.

Easy-PC offers a written tutorial that gives hands on experience of the program using pre-prepared schematics and drawings.

A mouse is desirable to the operation of Easy-PC but not essential. After installing the software and playing with the demo, I rang Number One Systems to verify a couple of points and in conversation was told that the hands on back up and help they could offer the new and inexperienced user was based on experience. They use Easy-PC in their own drawing offices.

Back to basics and although it's fun to play with any design package, your £98 plus VAT and carriage should be put to better use than doodling so you need something to design.

You shouldn't attempt to design and produce a PCB unless you already have a circuit up and going. I've spoken to several hardware aficionados who thought that they could throw away some of the initial development in favour of on-screen editing and debugging, but in real terms that doesn't work.

First, design and build your circuit on a breadboard or one of the trackboards that you can get from suppliers such as Tandy. or Maplin.

When you're sure that you have an efficient working product, it's time to try to transfer your design from breadboard to PCB.

One of the readily available templates in Easy-PC is a small euroboard. This loads an outline with a euro connector on to the screen and you are able to work with some idea of your constraints. Other pre-determined symbols are available and you can save any design that may be a good jumping off block for something else.

A simple but useful PCB is a switchable hardware serial port for a PC. In order to design this, you'd need to design a short PC card PCB. It may not be a bad idea as you design the board to save the generic PC card design. This way, you'd save yourself some work

next time you wanted to design a PC card.

Likewise any other circuit board that used a generic shape. This way you could build up libraries of often used board shapes. Taking that philosophy a stage further, often used processors and chips that are generally configured the same way could be saved in the same way that regularly used clip art is saved in DTP programs.

This modular approach to design may not seem essentially necessary if you're only planning one project or the occasional design but as you learn the rudiments of design, the ability to use oft used circuits and components will be a benefit in terms of saved time and productivity.

Listen to half a dozen wireheads and you'll hear at least six: "There's only one way to design a PCB properly," theories. In short, find the way that you work most efficiently and comfortably and use that. First attempts will look clumsy and before you shoot off to the local PCB manufacturer, it's probably best to let your masterpiece lie for a few days. After a few nights sleep, you will see obvious changes that can make the board tidier and more elegant. Once the fine tuning has been done, see if you can do the job on a smaller board. A small board with shorter tracks may look busier but it is also less use of resources.

As well as the ability to design manufacturable PCBs from the ground up, Easy-PC can take some of the stress out of simple circuit schematics too.

Easy-PC is a well featured design package that can best be described as DTP for the circuit designer. The output to file or printer is easily good enough match the most stringent manufacturing criteria and at £98 the package is excellent value for money. ■

EASY-PC costs £98 plus VAT and carriage (£118.16) and is available from Number One Systems on 0480 61778 or Fax 0480 494042.



# **THE WORLD'S FINEST** **DISKS** **AT TOTALLY UNBEATABLE PRICES!**

AND IF YOUR ORDER FOR THE FOLLOWING DEALS ARRIVE BY  
**MONDAY 17TH MARCH**

YOU WILL GET AN EXTRA

**10% OF DISKS ABSOLUTELY FREE!!\***

(E.G. Order 200 Red KAO disks you get 220 Red KAO disks!)

**AND NOW YOU CAN ORDER DISKS IN ANY  
COMBINATION YOU WANT!**

(You can order 27 Green and 72 Yellow and 1 Orange!)

**GENUINE KAO DISKS!**

THE WORLD'S FINEST!

AVAILABLE IN BLACK, BLUE, YELLOW, FOG WHITE, GREEN, RED AND ORANGE !  
The order (excluding free disks) must total 100, 200, 300, 400, 800 or 1600.

100 (110!) \* GENUINE KAO 3½" COLOUR DSDD DISKS FOR ONLY - £42.99  
200 (220!) \* GENUINE KAO 3½" COLOUR DSDD DISKS FOR ONLY - £79.99  
300 (330!) \* GENUINE KAO 3½" COLOUR DSDD DISKS FOR ONLY - £119.99  
400 (440!) \* GENUINE KAO 3½" COLOUR DSDD DISKS FOR ONLY - £159.99  
800 (880!) \* GENUINE KAO 3½" COLOUR DSDD DISKS FOR ONLY - £299.99  
1600 (1760!) \* GENUINE KAO 3½" COLOUR DSDD DISKS FOR ONLY - £549.99

JUST QUOTE YOUR COLOUR PREFERENCE WHEN ORDERING!  
E.G. 27 GREEN + 72 YELLOW + 1 ORANGE = 100 DISKS = £42.99  
AND!

**REMEMBER! YOU GET 10% EXTRA!**  
**IF YOUR ORDER RECEIVED BY THE 17TH!**

THAT'S 27 GREEN + 72 YELLOW + 1 ORANGE = 100 DISKS = £42.99 PLUS  
THE 10% EXTRA (10 DISKS) IN WHATEVER COLOURS YOU WANT (8 BLACK, 2 RED!)  
Offers subject to availability.

**SO HURRY!**

Is it worth risking it with cheap disks from manufacturers you've never  
even heard of (or ever will!) when you can buy  
the WORLD'S FINEST at these prices?!!

THESE DISKS ARE THE REAL THING SUPPLIED  
SEALED IN KAO PACKAGES (IF ORDERS ARE IN 100'S OF THE SAME COLOUR)  
SO YOU KNOW THAT YOU'RE GETTING GENUINE 100% KAO,  
100% CERTIFIED, 100% GUARANTEED FOR LIFE!

**ALL PRICES FULLY INCLUSIVE - POST AND PACKING INCLUDED.**  
**ORDERS FOR 800 DISKS AND ABOVE WILL HAVE DELIVERY BY PARCELFORCE!**  
**ALL DISKS ARE GUARANTEED FOR LIFE WITH A 1 FOR 1 SWAP.**  
**ALL DISKS COME INDIVIDUALLY WRAPPED WITH LABELS.**  
**UNCONDITIONAL MONEY BACK GUARANTEE!**  
**THIS DOES NOT AFFECT YOUR STATUTORY RIGHTS.**

CHEQUES/POSTAL ORDERS PAYABLE TO PIONEER MEDIA,  
PIONEER COMMUNICATIONS, 130 PEMDEVON ROAD, CROYDON, SURREY, CR0 3QP  
PLEASE ALLOW 5 DAYS FOR DELIVERY.

\* Orders received 18th March and after will not qualify for free disks.



# TECH TIPS



Having problems with your printer? Wonder how you can get your office and home computer to talk to each other? Ever wondered how ATOnce can help you? Send your stories and queries to Keith Pomfret, Tech Tips, New Computer Express, 30 Monmouth Street, Bath BA1 2BW.

## ■ HELP! Amiga printer

You guys are totally brilliant and between the weekly *New Computer Express* and *Amiga Format*, there is very little of interest that either seems to escape your notice, or goes uncovered. Keep pluggin! Now, can your expertise come up with an answer, please, regarding my printer problems – yes there had to be a reason for the grovelling opener!

I have an Amiga and among the software I use is the Publishers' Choice DTP program and I dumped what I produce to my Star LC24-10 printer.

All the equipment is not that old, so isn't worn or abused. My problem is the printer and horizontal lines. This is a problem that began just prior to Christmas and commenced with the lines appearing infrequently and often only stretching about two inches across the page. It's got progressively worse and I don't know why. I can't class this as 'handling' because density, or lines of density, has never been a problem.

Could it be the stepper motor? Printer head? Preferences? Can you please help in any way?

Now we have got that matter out of the way, I have a suggestion for a future feature. I have a modem. I read the usual articles relating to BBs, etc, and use them no problem. But never have I read anything that would take the newcomer, such as myself, through the various stages that will allow us to download or even upload files. My comprow is ACCESS! but I have yet to successfully download anything from BBs'. Am I just being thick or are there others like myself out there with the same problem?

Thanks again for any assistance you may be able to provide re the printer.

Gerry Lovell, Reading, Berks

First, try your printer on another Amiga and using different software to check whether it really is the printer. If the problem doesn't appear with other software, you could have a printer driver problem. If it doesn't appear with another Amiga, you've an Amiga problem. If it's neither of these, then it looks like it might be the printer

If the printer is still in warranty, return it to the supplier with an example of the flawed output. If it's out of warranty, either take it to the supplier or to another reputable computer/printer repair

and service agent.

Thanks for the idea for the feature. It must be getting time for a comms splurge again. The only problem with your idea, though, is that out of at least 20 comms programs across the different machines, none seem to work in exactly the same way. The process of downloading is essentially the same, but different programs approach it in different ways. A particularly user friendly comms program allows you to pre set download and upload criteria and implement it by the simple expedient of clicking on an icon. Other programs expect some input from you and some of the more unfriendly ones make you drop to the operating system and type all sorts of mumbo jumbo.

Access, however, is one of the easier to drive ones and if you're having problems with it you should first check that you are trying to work with programs that are compatible with your machine and then check that you are following the correct upload and download protocols.

There are several file transfer protocols and if both ends of a comms link aren't using the same, you will get garbage. If the sending system is operating in the X Modem protocol, the receiver must also operate in X Modem and so on. Watch out for comms specials, but you'll have to get to know your own comms software better too.

## ■ HELP! Slow laser

At present I run both an Atari 520 STFM and an Acorn A3000 on the latter I use ATELIER and EUCLIO 2. I have been offered a Ricoh PC Laxezer 6000, with a laserjet and emulator cord and three toner cartridges for £370 (its counter shows 45000 copies). Is it a good buy? I have seen it in use with a PC200 with hard drive, the output was good with four tone grey scale, but it took 15 minutes to plot a simple graphic – is this normal?

Paul Houghton, Rotherham, Yorkshire

The laser that you are thinking of buying is definitely not the ideal add-on for your Archimedes. As well as being slow and having little memory, it isn't suitable for some of the output that you'd want to do, even with emulation. The best way to get a cheapish laser for an Archimedes seems to be to trundle along to the All Formats show or suchlike where you can

see the requisite piece of kit in action. On two recent visits to the All Formats, there have been Arch lasers and various other peripherals for sale although it's probably best to check with the organiser before you invest in a trip. If you plan to buy a laser and you know what software you wish to use with it, make sure that you see it demo'd with the software before you buy.

## ■ HELP! Monitor stuff

My Philips CM8833 monitor has died on me and has to go away for repair. Fortunately, I also own a Commodore 1901 monitor. My problem is connecting this to my Amiga A2000. I know such a lead is available, but I would rather assemble one myself. If at all possible, could you please illustrate or explain which pins from the Amiga D-plug connect with the RGBI plug for the monitor. I would be very grateful.

Simon Dayton, Essex

If you want to make the lead yourself, the company to contact is Simpson Electronics on 0332 760353. Paul Simpson works on the principle that by supplying the goods and offering technical help, he provides a complete service.

As well as the two connectors and the electric string, if you twist his arm, he might even scribble down a schematic for you so that you can put together the lead yourself.

## ■ BARDS! Tale

First a cautionary tale.

I recently bought a 1Mb RAM upgrade for my 520STFM from Evesham Micros. This is the type which gives you four SIMMs slots once it is fitted, made by Zydec. The guy in the instruction manual fitted his upgrade with consummate ease, but I found that with mine the ribbon cables were stretched like fiddle strings. They were so tight in fact that as I reassembled the ST the plugs kept pulling out. After several frustrating attempts I was forced to cut cable slots in the RFI shielding to get the circuit board to sit in a "comfortable" position.

Once this was done everything worked fine, so it seems such a shame that a good product is spoiled by skimping on the cables, another three or four centimetres on the length of all the connectors would have made things so very easy, for little extra cost.

OK, so now I am zipping along with 1Mb of RAM, but those empty slots are playing on my mind, seems such a waste.

Now the questions:

1) Are the SIMMs an industry standard, or do I have to use SIMMS made specially for the ST? I have seen 1Mb PC SIMMs advertised fairly cheaply, can I just replace my 256K SIMMs with these? If my SIMMs must be Atari specific could you give me the name of a supplier and an approximate price.

2) I know from looking at the circuit board logos that my Commodore MPS1250 printer is made by Citizen, can you confirm my suspicions that it is in fact a boxed and badged Citizen 120D?

If you can it will make finding printer driver software much easier.

Brian Sherry, Essex

Thanks for the tip about short cables and how you solved the problem. Your suspicion that SIMMs are not all created equal is correct. The ones that go in an ST are 8-bit wide by 256K or 8-bit wide by 1Mb. The PC ones are 9-bit by 1Mb and therefore incompatible.

The ninth bit is there to check parity and the ST already has this feature implemented elsewhere. I am told that it is possible to disable the on-board parity and run PC SIMMs on an ST, but it's a lot of hassle when the prices aren't really that different. If you want the full run down on what chip does what, the person to contact is Chris Barrow at the Chip Shop on 061 476 3070. Your printer problem is a mystery to me and the chaps at Commodore and Citizen were understandably tight lipped about it too.

## ■ HELP! Amiga emulation

I wish to buy an A500 Amiga with 1Mb of RAM and fitted with a PC emulator. Two options seem to present themselves: the A501 memory expansion plus the ATOnce card, or the KCS board (which comes complete with extra RAM). Which of these do you recommend?

The KCS is easy to fit and has the extra RAM and comes with MS-DOS, but is only an XT emulator, costs almost £300, and is limited to CGA graphics.

The ATOnce is AT standard, boasts EGA graphics, and is about £100 cheaper, but is difficult to fit (I have the technical know-how of a small gerbil and none of my local dealers seem keen).



The KCS apparently gives 16 colours on screen, but a recent magazine review stated that CGA could only give four colours in low resolution and was virtually obsolete on real PCs. Which is correct?

I suppose the bottom line is - do you know of a firm that will supply me with an A500 ready-fitted with ATOnce?  
R Pluck, Cleveland

To remain firmly planted on the bottom line, the answer to your question is Silica Shop. If you order the ATOnce from them at the same time as you order your Amiga and ask for it to be supplied fitted, they will do the job. for you. Silica is on 081-309 1111.

## ■ HELP! Prototext rescue

I think this enquiry will be of interest to many of your readers who, like me, have compromised between their own WP requirements and their kids requirements to play great games by purchasing an STE (rather than IBM).

I have an Atari 1040 STE with colour monitor, external hard and floppy drives and Star LC10 printer, but I want to be able to transfer at home *First Word* files to *Display Write 4* on IBM at work.

As I have read in *Express* (and elsewhere) the procedure is to format disks to IBM and then save the *First Word* files in ASCII format, that is with WP mode off. I have tried, but honest it doesn't work.

It could be *Display Write 4* which does not recognise the file type? But if the procedure is usually OK why do PD

libraries offer *First Word* to ASCII conversion programs?

Please help or recommend mail order for *Prototext 5*.  
Adrian Davin, Surrey

I hereby recommend mail order for *Prototext 5*. The number that you need is 0733 68909. This will put you straight through to Arnor HQ, home of *Prototext*.

## ■ TIP! Booting Amiga

Here is a handy tip for all those new users of the Commodore Amiga. You will probably have noticed (well it is difficult to miss!) that the power supply is a separate unit about the size of a breeze block. It takes up lots of room on the desk but unfortunately it also has the on/off switch on one end.

Since the cable is quite long, it is quite easy to put the PSU on the floor under the desk. You may think it rather awkward to turn the machine on or off but this is quite easily performed with a suitable use of pressure applied with the sharp end of your foot. This is quite common in Amiga circles where it is known as Kickstart. Hope this proves helpful.

Paul Bates, Derby

And I suppose that you keep the mouse in a cage and that the serial port is for digitising old episodes of *Neighbours*. You forgot the all-important information that an Amiga power supply used in this way can also double as a foot-warmer and Economy 7 storage heater.

## ■ HELP! Social stuff

I am having great difficulty finding a program to store membership details for a social club. I need to list any members who have not paid subs. And print lists of members and membership numbers. I have tried Commercial and PD houses with no luck, any help will be appreciated.  
G Caine, Cumbria

Whoops. Here's another example of how easy it is to forget the most important detail. I would gladly take a shot at answering the question if only you'd tell me what machine you have ...

## ■ HELP! Doner Kebab

Inspired by I Spakes letter (*Express* 118), I am writing to you in the hope that you will be able to help me with my word processing problems also.

In the near future, I am going to need a WP or some such package, to write a PhD thesis, on my Amiga 500. The package would have to support super - and subscripts and also, if possible, Greek characters,

I also need to produce a letter-quality output for this (including subscript, superscript and Greek) and hope that there is a 24-pin DM printer that will do the job as I can't afford a laser printer. I'm looking at the Star LL24-200C in particular as it would be nice to be able to produce colour images from *DPaint II*.

Is there a word processor for the A500 that will do this? (my budget is

around £150) Will the printer do the job I want it to? Your advice would be greatly appreciated.  
LT Hogg, Bradford, Yorkshire

*Prototext* version 5 scrapes in at £149.95 and will do everything that you need and more besides. Contact Arnor on 0733 68909 for full details and specifications of *Prototext*.

## ■ HELP! Amegas

Could you help me with a small problem. I purchased an Amiga 500 last year which had the *Tenstar* software bundled with it. The problem is *Amegas* now refuses to load; all my other software loads OK.

The only information I have is that the game is made by Pandora. I cannot find their address or telephone number. As I can't find another copy of this game anywhere I was hoping you could shed some light on the whereabouts of this company. I know it is an old game but my wife and I are big fans of it and would really like another copy.

Thank you for your attention of this matter.  
Mr S Stinson, Scunthorpe, South Humberside.

And I can't run the publisher of *Amegas* to ground either, but I'm sure that someone out there will donate an original of *Amegas* to you (no pirate copies). So if anyone wants to donate *Amegas* to Mr Stinson, send your name and address and I'll pass it on.

## ■ SOLVED! Pooled solutions

The following program is a solution to Mr T Cobbe's random number generation of eleven numbers and sort routine (*Express* 118). It was originally written in Commodore 16 Basic sometime ago, as part of a more complete pools selection program, which enabled it to generate random numbers within a variable range and a variable number of selections, as Mr Cobbe did not say which Basic he uses.

Rather than Do-loop, Do-until or Do-while, which are less common in earlier examples of Basic this program takes 0.125 seconds average to run.

Note: The extra remark dots are to give double spacing to assist readability.

Pools Selection and Sort Program  
Atari ST Computer  
J Hawkins 2/91

This program was written in GFA Basic V2. It should be easy to get it to work with other Basics. Adding line numbers and changing to Go to random line with the appropriate line number should work. The If-then syntax may need changing. The random function syntax differs from Basic to Basic.

```
Dim Selections(11),Numbers(58)! set up arrays
For N=1 To 58
    Numbers(N)=N          ! load numbers array
Next N
For A=1 To 11
    Random:
```

```
N=Random (58)=1
number
If Numbers(N)=0 Then
    already used
    Goto Random
number in array
Endif
Selections(A)=N
number in array
Numbers(N)=0
from array
Next A
For A=1 To 10
    start
    For B=A+1 To 11
        If Selections(A)>Selections(B) Then ! swap
        numbers if true
        S=Selections(B)          ! hold array
        number in variable 5
        Selections(B)=SELECTIONS(A) ! swap one array
        number
        Selections(A)=S          ! put variable S
        into other array
    Endif
    Next B
Next A
sort routine ends
For A=1 To 11
    Print Selections(A)
    Print
Next A
```

```
! generate random
! check if number
! get number if no
```

```
! put selected
! delete used number
! sort routine
```

```
! hold array
! put variable S
```

```
Input " Do you require another selection of
number y/n? ";S$
If S$="Y" Or S$="y" Then
    RunEndif
End
J Hawkins, Bristol
```

### SOLUTION 2! Dirty pools

```
10 REM Re Trevor Cobbe's Pools letter
20 REM Prog for Spectrum
30 REM ALL MATCHES INTO ARRAY a()
40 LET n=58: LET s=11: LET t=0
50 DIM a(n): DIM b(s)
60 FOR f=1 TO n: LET b(t)=a(x): LET a(x)=0
70 REM SELECT 11 RANDOM NOS.
80 LET x=RND*(n-1)+1
90 IF a(x)=0 THEN GOTO 80
100 LET t=t+1: LET b(t)=a(x): LET a(x)=0
110 IF t<s THEN GOTO 80
120 REM BUBBLE SORT
130 REM Shell sort no advantage
140 REM with such small sample.
150 FOR f=1 TO s: FOR g=1 TO s-f
160 IF b(g)>b(g+1) THEN LET c=b(g): LET
b(g)=b(g+1): LET b(g+1)=c
170 NEXT g: NEXT f
180 REM PRINT RESULTS
190 FOR h=1 TO 11: PRINT b(h): NEXT h
Run time 3 secs.
H Griffiths, Hereford
```



**FED** up with my Amiga games will swap for PD or make me an offer. Ring 081 749 5036 ask for Anthony.

**ATARI ST** Public Doman contacts  
watned all ready have over 200 titles.  
Write to Matthew Tillett, 30 Prospect  
Road, Dulton Broad, Lowestoft,  
Suffolk MR32 3PT.

**C16 +4 ORIGINAL** software on cassette anything wanted must be cheap send list to Michael Vainola, 5 Woodside Cottages, Highwood, Chelmsford Essex CM1 3RD. Hi to Steve Packer for help with Retrograde.

**IN NEED** of an Atari SM124 mono monitor. In exchange I can give you an unpacked Microvitec colour monitor worth £250. Please contact Kevin on 0376 520247 any time.

**WANTED**, Archimedes C Compiler (ANSI) and/or programmers reference manual. Cash paid. Ring Mark on Lincoln 0522 521606 evenings or 502406 days.

**CAN** anyone help me, I require a Spectrum 128K +3 manual willing to buy. John Findlay, 2 Thorndon Close, St Pauls Cray, Orpington, Kent BR5 2SJ.

**CASE** for Toshiba T1200FB portable and instruction book. Also external 5/14" drive. Tel Charles Woking (0483) 764857.

**WANTED** for Mega drive. TAG 50 joystick wanted in g.w.o. Will pay up to £15 if in good condition. Send details to Nick, 55 Hayes Lane, Wimborne, Dorset BH21 2JB.

**COMMODORE** Vic 20 games wanted  
urgently. Phone Presatyn 852882.

**WANTED** Amiga Battletech. Pay cash or Part exchange 3D Pool. Desperate please phone 0203 303441.

**ATARI 130XE and XCII cassette**  
(Rabbit fitted would be ideal!) 0438  
729890.

**AMIGA** contacts wanted 100% reply guaranteed. Write to Andy Hogg, 2 The Blackthorns, Burgess Hill, West Sussex RH15 8HW or phone 0444 246921 evenings.

**PUBLIC** Domain Clip Art wanted for the ST. Send details to Peter Gunning, 47 Auchingane, The Tryst, Edinburgh EH10 7HX. (swap for PD software).

**WANTED** your dead (or alive)  
computers Spectrums, Commodores,  
Electrons etc. Plus any software  
Contact Les 0708 721008.

**WANTED** unserviceable Timex Sinclair 2040 printers. Will collect Sleaford, Kings Lynn, Enfield, Dundee or Glasgow areas. tel 0334 838316.

**WANTED** ST Happy Discovery  
cartridge. Tel 0224 823495. Sensible  
prices please.

**HELP** Amiga XT Bridgeboard user urgently requires manuals and disks to install the card. Can I borrow yours? Will pay postage. Phone Stuart 0224 323 737 (Aberdeen).

**NEW** Spectrum +3 owner requires software (mainly serious stuff) 3" disks or tapes, also any spare bits of hardware, books "etc". J.M, 82 Tیره Drive, Cumberland G67 1NX.

**WANTED** has anyone out there got details of the RGB socket pin outs of the Acorn Electron. Please ring Andy on 0922 724005 with details.

**WANTED** tractor feed for Epson  
LQ1500 DTP for Atari (not  
Timeworks) 1 meg Simms for Atari.  
Tel Fred 0633 266647 eves.

**ANYONE** in the Staffordshire area wishing to sell a good working Amiga 500 with mouse and mat, TV modulator, workbench and manuals for £180 up to £200. Ring 0782 644902.

**WANTED** broken Atari ST's to repair/improve my setup. Any condition considered will pay up to £40 depending on quality. Phone 0275 375496 after 6pm. Also wanted First Word Plus manual.

**REAL 3D Turbo** wanted for Amiga  
also assorted mags for sale inc Ace,  
NCE, approx 150 in all £30 the lot.  
Will not split, buyer collects. 0472  
851209 after 6pm.

**WANTED** Amiga software books, utilities etc. Send details to S Collie, 101 Bute Road, Wallington Surrey SM6 8AE.

★ FREE ESTIMATES ★ 12 MONTHS WARRANTY ★  
Amstrad, Atari, Commodore, Sinclair,  
Monitors & Printers, Amiga & ST Specialists  
Fixed Labour Charge + Parts & Carriage  
★ STFM/E/MEGA POWER SUPPLY REPAIRS £30 ALL INC. ★

1Mb Internal Drive + 1/2 Mb RAM  
from £100.00 inc. fitting and full  
diagnostic check, 5 day turn round  
All services & goods supplied subject to our terms of trade

37 Bamford Street, Clayton, Manchester, M11 4FE  
(Callers by appointment only)  
Tel: 061 231 6608 Fax: 061 223 7531

**WANTED.** Logitech Scanman hand scanner, cash paid and collection arranged if in south east. Tel 0703 254132. For use on Amstrad XT.

**WANTED** A book or books on machine code for the Commodore 64 computer. Telephone 08985 (Blackpool) between 6 and 8pm.

**WANTED** instructions for Casio PF-3000 data bank super memory computer. Contact Michael Vainola, 5 Woodside Cottages, Highwood, Chelmsford Essex. CM1 3RD. Also wanted C16 +4 games on cassette.

**WANTED** Megadrive or Lynx. Will swap for my Amstrad CPC464 with Light Pen and games (green monitor). Write to G Milnes, The Bungalow, C/P School, Stockton on Forest, York YO3 9UP.

**SWAP** Yamaha PSR-37 keyboard with music books + tape, excellent condition hardly used, 1 year old, still boxed, for Neo Geo +1 game, phone Chris now 0509 504145 any time.

**STUDENT** looking for dead computer equipment. Would pay postage for any unwanted items for use. 0359 69735.

**WANTED** reader manual for C.10h  
1550, 32 column printer. Will pay £5  
+ post (03985) 438 or write, 2 Town  
Mead, Oakford, Devon EX16 9EW.

**WANTED** Any of these games for Amstrad CPC.(tape or disc) Alien, Boulderdash, Construction Kit, Little Computer People, or The Sydney Affair. Darren, 23 Grosvenor Road, Leyton, London E10 6LG.

**SAM COUPE AND SPECTRUM MAGAZINE!**  
PROGRAMS, UTILITIES, INFO IDEAS! NEWS, REVIEWS AND HOMEGROWN SOFTWARE MONTHLY SINCE 1987!  
**"OUTLET"** GRAPHICS, AND HELP PAGES, SERIOUS SOFTWARE  
SPECIAL OFFER! Latest issue £2.50 to newcomers on:-  
+3, DISCIPLE/+D, MICRODRIVE, OPUS, TAPE, SAM DISC  
CHEZRON SOFTWARE, 605 LOUGHBOROUGH RD., BIRSTALL, LEICESTER LE4 4NJ

**CASIO VZ10M** Digital Synth  
Module C/W. Extra ROM card,  
manuals and midi lead. Fully  
boxed and in mint condition. Cost  
£800, sell for £200. Tel 0325  
357916. 5.30 - 7pm only

**TIMEWORKS DTP** for sale. Perfect  
condition. Will sell for £50 o.n.o.,  
contact Kevin on (0494) 473712,  
after 3.30pm Monday to Friday,  
anytime Saturday or Sunday. Many  
games also for sale.

**SPECTRUM +2, UTX 5000**  
modem, £350 software, joystick,  
interface, Mags, all worth £650 +  
sell for £200 o.n.o. Will split.  
Phone (0742) 665356, ask for Tim  
or 141 Murray Road, Sheffield, S11  
7GH.

**ATARI STE 2 Meg boxed/new**  
£350 could add 2 Meg to make  
4Meg STE £390. Phone Reading  
(0734) 869181, after 7pm.

**BOOK:** Atari St Internals, as new,  
By Abagus, £12. Phone (0795)  
872280.

**AMSTRAD LQ3500, 24 PIN DOT**  
Matrix printer + cable £130 o.n.o.  
Also Depac ST + Hyperpaint,  
BOTH £30. Phone: Stroud (0453)  
755860.

**FUN** School 3 for Atari ST/STE  
boxed original with badge! £11.  
Also space request 3 for Atari ST,  
boxed original, £11. Phone (0795)  
872280.

**ATARI ST 1MEG** memort, 1Meg  
internal drive, external drive,  
stereo sound board, Naksha  
Mouse, 20 + P.D. 30 + Games,  
Blitz, Disk Box, Mouse Mat, all  
leads, dust cover. All boxed only  
£450 o.n.o. Phone Keith 0442  
67855.

**AMIGA** and IBM PC originals  
unboxed to Sell, Wonderland, Lost  
Patrol, Nightbread plus many  
more. For full list send SAE to  
M.Jaques 8 Paisley House,  
Kershaw Street, Bradford, BD3  
8PA.

- ☐ **TWIN 5 1/4" DISK DRIVES.** A nicely cased self-contained unit with its own power supply. Product of a famous Jap maker this is IBM compatible 360K twin double sided. Brand new with data £59.00 plus £3 delivery.
- ☐ **3 1/2" DOUBLE SIDED DOUBLE DENSITY DISK DRIVES** all by the famous Japanese EPSON Co. All these models in stock with makers data: SMD240H, SMD280H, SMD240L, SMD180B. Also 5 1/4 models SD540 & SD580L, all brand new and will work with most computers and offered at £39.50 each + £3 delivery.
- ☐ **3 1/2" DOUBLE SIDE NEC** disk drives still available but not many left, will work with the Atari ST etc. £59.50 + £3 delivery.
- ☐ **AMSTRAD 3 1/2" DOUBLE SIDED DISK DRIVE** IBM compatible, with case Ref FD9 £45.00 + £3.00 P&P.
- ☐ **SUPER MULTITESTER** Ex British Telecom, as new tested and guaranteed. Original cost probably over £50, yours for only £7.50 Leather case for this £3.00 + £3.00 post.
- ☐ **110 WATT POWER SUPPLY ASTEC** switchmode, 230v mains Input:- 38v at 21/2A & 5v 3A outputs, encased and fitted on panel mounting plate with mains input socket and on/off switch, made for use with computers. Brand new, price- this is £15.00 post paid.

**M & B Electrical Dept NCE,**

12 Boundary Rd, Hove, Sussex. BN3 4EH.  
Tel: 0273 430380 Fax: 0273 410142. Telephone orders welcome



**DRAGON** Computer, company software address guidess, only £2.00 including p+p. Find out who to contact! Send cheques made payable to Peter Hawes, 9 Strangford, Whitstable, Kent, CT5 2EP.

**CRYSTAL** joystick boxed £8, Amiga Garrison £5, V1.2 ROM Chip £12, wanted Amiga £19, Powermonger, B.A.T. for cash or swap any above. Tel 0630 58329.

**BACK** issues N.C.E, Amiga computing, Amiga user, etc. 65p - £110 includes post (no disks). Amiga Treble Champions, Drakkhen £6 each. Edition one £9. All boxed (0703) 676949, after 7pm.

**IBM** Compatible 386DX 3.5Mb RAM 1.2 Mb floppy drive 65Mb hard disk VGA colour monitor and card DOS 3.3 mouse and windows 3 £1200 o.n.o. Phone 071 435 8309.

**AMIGA** Xcopy 2.1 software and hardware £15. Datel 1.5 MEG upopulated expansion board c/w clock. Needs adaptor board to connect to Gary Chip. Hence! £8. Tel 0473 713715. Viper 6 - 9pm.

**FREE** Amiga 500 1MEG: Cumana drive D.O.S. Ref. books, joystick, games, magazines, spare mouse all boxed. Free if you buy 10 blank disks for £350. no split. Tel 0788 811068.

**COMMODORE** 64 computer, 1541 II, disk drive, plus many disks, tapes, cartridges, books and magazines. FM sound module and sampler. Cost £2000. Sell for £260 o.n.o. good condition. Phone Tim 081 805 2970.

**SONY** Trinatron Viewdata machine. Like ones used in Thompson Travel. With keyboard and power lead. Sell for £85. Tel Liverpool 051 428 2280.

**AMIGA** 500 1Mb 2nd disk drive monitor plinth with joystick extensions, software joystick, disk box, 20 blank disks seal and type dust cover bargain! only £400 o.n.o., evenings only.

**AMSTARD** PPC 51DD, NEC V30, case, manuals and PSU with NEC multisync monitor £125 contact: Steve on 0709 812068 (South Yorkshire).

**SPECTRUM** + plus many more games plus joysticks plus blank disks plus manuals. Boxed as new. Also Amstrad printer, DMP 2000. + 3, £50. Printer, £90. The lot for £120. Tel 0483 771769.

**INKJET** portable printer. A4, NLQ, 80Col (12 Jets) Paraller Input. Tractor and/or friction Feed. IBM and Epson Modes. A bargain. £300 + new to first caller £150 as new ring: 513086 (0934).

**AMSTRAD** Rombox with Protext and Maxam 1.5 Roms £40 DD1 drive plus 10 blank disks £40. Bonzo super meddlèr £6. Firmware guide 158, £10 Zaks programming Z80 £10. Tel 081 669 6093.

**AMSTRAD** CPC6128, colour monitor, mouse, stop press (DTP) business/utility software on disk, 70 + games (tape and disk). Books, joystick, tape recorder, (worth £1,000) £500. Andrew Stewarts (099382) 3325 (Oxon)

**FM** melody maker for Atari ST £40. SAE for details. Mr. S. Cheung, 298 Biscot Road, Luton, Beds.

**AMIGA** A1500 with Philips monitor D Paint 3, The Works Battle, Chess, Populous, Sim City, Finest Hour software etc. One month old £800. Evenings 081 451 6748.

**ATARI** SLM804 laser printer, excellent condition, manuals etc new drum and toner £750 o.n.o. Phone 0392 427056 or 0392 436300 anytime.

**SEGA** Megadrive as new plus one game, Eswat for only £130. Also for sale John Madden American Football £25 contact Berkhamstead (0442) 862875.

**"ST/AMIGA"** Format magazines for sale (all 13 issues). Also "ACE" magazines (issue 6 onwards) for sale. "ACE's" for £15. "Formats" for £5 (will split). Ring Imran: (0274) 578258.

**MIRACLE** Technology WS3000 Professional 2123 £70 Epson Lx 800 sheet feeder bought in error £25 Diconix 150 portable inkjet printer inc NI - CAD batteries and charger £155 o.n.o. Tel: 0322 662747.

## MAKE MUSICAL MAGIC WITH YOUR COMPUTER

Yamaha PSS 790 Midi .....£229.99  
Yamaha PSS 590 Midi .....£149.99  
Dr. T's Sequencer Package.....£99.99  
includes Scorewriter

- ★ For as little as £250.00 you can turn your computer into a home recording studio.
- ★ Plus a full range of Roland C.M. products in stock.
- ★ Most major credit cards accepted.
- ★ Phone **0795-425931** for an info pack



"Your Friend in the Music Business"  
**3 Roman Sq, Sittingbourne, Kent.**

**CUMANA** 30Mb external hard drive for Amstrad PPC 512/640 as new £250. Phone or write.

**SPECTRUM** +3 with multiface, disk games good condition, some tape games £125 also Commodore games system C64GS. As new guaranteed for 2 years + £60 - please write to D. Wood., 42 St Hughes Avenue, Cleethorpes, and ask for details.

**12 AMIGA** originals £30 full list SAE 13, Bournville Lane Birmingham. Tel (021) 459 7576 PD swaps wanted.

**BROTHER** EP44 £45 Psion Comms Link no manual £22 spreadsheet £18 or swap for serial mouse with 31/2 software disk also 51/4 full height IBM drive £20 0408 21870.

# TREASURE ISLAND

A  
B  
C  
D  
E  
F  
G  
H  
I  
J

1 2 3 4 5 6 7 8 9 10

CASH PRIZES

**USE YOUR VOICE TO LOCATE THE TREASURE**

## 0898 313 586

Infodial PO Box 36 LS1 4TN Call Charges 33P Per min Cheap Rate 44P all other times

**BBC** fully upgraded 2nd processor "Accountant Fileplan" "Cobol" twin D/sided 40/80t Toshiba drives. Sideways Rom board "Worldwise" "Sleuth", "Commstar", "Dumpout 3", "View", "Pascal", Microvitec colour monitor 100's programs £700 0885 482980.

**ACE** PD - PD software for your Amiga. Catalogue disk, just £1, includes magazine and PD. Send/payable to: Paul Harthen + 3 Boyds Walk, Dunkinfield, Cheshire, SK16 4AX.

**NEW** BBC touchpad, RTTY Interface with software five new books, ten new disks, twelve music disks, software, double drive ribbon cable, disk boxes etc. for more details, ring (0723) 373052.

**MIDI** keyboard Casio HT - 700 stereo 4 octaves pitch bend wheel ideal for home midi setup. Phone (0732) 357814. £75 o.n.o.

**AMSTRAD** CPC464 + disk drive, geen monitor tv. Modulator, multiface, 100 + games on tape disk, magazines, manuals, joystick, bargain only. £200 phone after 6pm. (0490) 61253 will not split.

**AMIGA** 500. Evasham micros selond disk drive still guaranteed. Two Joysticks, Mouse, Mat, Blank Disks, £300 + software Inc Lotus Esprit. All boxed. Excellent condition, £350. Tel 051 678 2014.

**SEGA** "Golden Axe" game for master system. Sell for £18 or swap for "Y's" or "Battle Outrun". Contact Steve Jones. Tel 05255 - 3477.

**SPECTRUM** +2 five months old. Tons of games, joystick, magazines, Cheats manual, word processor. Worth over £250, 80 games excellent condition. SEll £110 o.n.o. Tel 051 709 6925.

**MICROVITEC** club colour monitor, TTL input. It has never been unpacked and costs £250. I am asking £125 o.n.o. PLease contact Kevin on 0376 520247. Anytime. Bargain!

**C64** original cassette software from £1. Many titles SAE for lists. Michael Vainola, 5 Woodside Cottage Highwood Chewford, Essex, CM1 3RD. Hi to Steve Packer of Chelmsford.

## Modems! Modems!

Amiga/Atari 2400 baud modem £125  
Amiga/Atari 4800 baud modem £195

PC 2400 baud internal modems from £95  
PC 4800 baud internal modems from £135

Prices INCLUSIVE of Delivery & VAT for a limited period

All modems are Hayes compatible, auto answer, tone/pulse dial, new & guaranteed.

### Call 081-566-3639

Supply Solutions, P O Box 2136, London W13 8QJ  
Open 10.30am to 6.30pm (8pm Monday & Thursday)

**STRICTLY MAIL ORDER ONLY**



# WANTED



USE YOUR VOICE  
TO OUTDRAW THE  
GUNFIGHTER

CASH PRIZES

0898 31 35 94

INFODIAL POBox 36 LS1 4TN Call charges 33p Per Min Cheap 44p Per Min All Other Times

**PC ENGINE** games for sale. 10 PC engine games, one joystick, one joy pad. All for only £60, not separate. Phone Richard (0224) 826589.

**FOR SALE** SAM Coupe with disk drive printer I/F ROM/RAM V2 manuals and software £100 or exchange for EGA monitor (PC) compatible. Also Psion (LX) organiser. £50. Tel 091 2372329.

**FOR SALE** Amiga Video Digitizer. Digiview 3. Requires Gender Changer to work with A500. £75. Tel 091 4786326, after 6pm. Prefer local sale in Tyne Wear area.

**AMAX** with 128k Roms. £125. Mac 800k floppy disk drive £125 or both for £220. Tel on, Lee (0602) 606442 or write to 125 Arnold Road, Bestwood, Nottingham, NG5 5HR.

**NES** P3 Pinwriter Dot Matrix printer. Includes cover and spare ribbon. £120 o.n.o. Phone (0305) 770453, after 6 pm.

**ST** original software for sale. Castle Master, Kult, Kick Off 2, Time, Interphase and many more! From £2 - £8. Please send an SAE to: Colindale Nurses Home, Colindale Hospital, Colindale, London, NW9.

**STE** SIPS - have upgraded so have two sets of 512k spare. £20 per set or o.n.o. Phone John (0252) 614543, evenings.

**SPECTRUM** 128, data recorder, two microdrives interface and cartridges, many games, other software and books, multiface one all very good condition. Buyer collects £120. Tel Bristol (0272) 876749.

**AMOS** the creator. Perfect condition £25 o.n.o. Phone Phil on (0734) 815754 or write to me at 24 Shyshach Lane, Baughurst, Basingstoke, Hants RG2 5NH. Also Gameboy swaps wanted.

**AMSTRAD** PCW828 word processing system. Includes printer, locoscript versions 1 + 2, manuals, utility disks and original packing excellent condition, must sell, hence £175 o.n.o. Tel Richard (0444) 450195, evenings.

**PC** hard disk 32Mb Seagate ST 238R with controller card £150, Atari ST 1Mb Cumana disk drive £50. Phone 081 549 6244.

**MSX** and MS2 carts, Nemesis, Nemesis 2, Nemesis 3, R - Type F1 - Sspirit, FM Pana amusement cart, Metal Gear, Gryzor Vampire Killer, Salamander, Hyper Sports 2, £100 the lot or offers. Tel Fran 0535 771381.

**ATARI** 1040 STE business software pack. £375. Panasonic M7 Camcorder sound and vision mixer tripod etc. £750 or swap SR hardware. Genlock hard drive etc. Cyber Paint £17 o.n.o. (0209) 860510.

**AMIGA** A500 W/B 1.3 RAM, 2nd drive, 150 + disks, all V.G.C. 9 months guarantee left. Many games and art/music software, sell for £400 S.T.E. + hardware in p/exchange considered. Tel (0509) 267926.

**A500 1MEG** Philips 8833 stereo monitor star LC-10 colour printer, 2x31/2" external drives, 1x external 51/4" drive, midi sampler, books, magazines, 1,300 disks, dust covers, stands. £750. Call 021 457 7663.

**20 MEG** hard disk with Watford ST506 controller card for Archimedes 310. £185. o.n.o. Arc users write to Phillip, 6, Back Church Street, Barrowford, Nelson, Lancs, BB9 6EH.

**SEGA** Master System, 6 games inc G.Axe, OP.Wolf. SG.Fighter + handle controller. Nothing wrong with it. Worth over £300, sell for £200 o.n.o. Buyer must collect. Phone 054 421 327. Ask for Charlie.

**80281** - 8Mhz maths co - processor £60. C128, disk drive, modem tape and star printer £500 or may consider splitting. Tel (0545) 580092 (Evenings).

**ST** Virus Killer £7 Pipemania £10 464/6128 disk software serious and games and 1000's magazines and some books. All original and 1/2 price. Phone for stuff (0908) 220486 Gary.

**PPC** 6400 2X720K disk drives built in modem, 1 year old, VGA any offers inc modem software and WP software. Tel 091 508 3535, after 6pm.

**AMIGA** 500 20 Mb hard disk A590 plus disk master. Disk Organiser £165 Protext V4.1 £20.

**PROPAK** modem V21/V23 auto dial/ auto answer. Inc leads. Boxed as new £85. Amiga Rugby - View/ Rugby Team software £15. Phone Andy (0325) 487095, after 6pm.

**SCART** + PAL megadrive 1 with 5 games. Sell for £150. £100, for megadrive with 1 games. Phone Mat on Crewe 0270 216549. Cyberball, Soccer, Golf, G axe, F blow, Darwin.

**ATARI** ST memory upgrade board. Evesham micro's Simas board plus 4Meg of Simms only £230 new and unused. Simms alone £170 or £45 each (80 NS). Phone 0275 375498, evenings.

**APPLE** IIC, green monitor, 2 double disk drives, no software, fully working. only £50. Tel (0705) 582729, after 6pm.

**PC** software (31/2") Blue Max £14, Silent Service II £12, PC witer £22. Ring 0420 - 88462 or 0822 - 852796.

**LAPTOP** Toshiba 1200 20Mb 311/2 floppy flight case unwanted prize, 1 month old. Offers price new £1200. Phone 0708 749719.

Let this advertising  
space work for YOU!!  
For Only £61

Contact Tim Partridge  
on  
0225 442244

**SPECTRUM** 48k+ with tape and leads £55. 58 games for sale from 50p. Back issue mags (Jan 89) with games 75p. SAE. G Hartigan No 1 Bosham Close, Lower Early, Reading Berks, RG6 4DG.

**AMIGA** A500, 8 months guarantee joystick, one Meg second disk drive, 20 original games including Amos magazines cover disks P.D. Plus books all boxed. Phone Rugby (0788) 536088. Bargain £550.

**AMSTRAD** CPC6128 colour monitor printer, joystick, multiface, £200 + worth games, datacorder, manual, 50 + magazines, binder, desk, dust cover, Mini Office II, Thingi, blank disks, worth £1200. Sell £600 o.n.o. Tel (081) 959 7947. Mr. Fields. Cash only.

**AMSTRAD** 464/6128 machine code book £3. 464 explored £3 Devpac (tape) £8. CP/M book £4 disk software Biggles £10. computer hits £10 and other serious and games. Call (0908) 220486.

**AMSTRAD** 464/6128 disc stuff. Biggles £10 interdictor Pilot £10, Computer Hits £10 Image System £10, Knife £8 "C" £20 Devpac 80 £20. Laser Genius £15. CP/M book £4. Call (0908) 220486.

**ENTERPRISE** 64K, MSDOS, 31/2" Kumana disk, CP/M Amstrad DMP2000. NLQ printer + paper, + cables, + software W.P, Chess, plus dozen games + manuals + joystick whole working package. £225 o.n.o. Tel Richard 0268 526503.

## PETE'S PD Copy Service

★ Amiga PD Shareware £1.25 per disk ★

### UTILITIES/GAMES

- 473 - WB Hacs ● 492 - Boot bench V2.0 demo/intro maker
- 323 - Holy Grail text adventure ● 459 - Virus Killers

### DEMOS

- 621 - Walker Animation \* ● 658 - Watership Down slide show
- 639 - Forgotten Realms slide show ● 657 - Popeye Meets The Beach Boys

### MUSIC

- 124 - (2 Disks) Kylie Minogue ● 158 - Reflections (Ver.1) 30 mins
- 159 - Reflections (Ver.2) 40 mins ● 138 - Power Surge

### ★ FISH DISKS ALSO AVAILABLE ★

No membership fees, 1st class return of post, same day service, no hidden extras

**TEL: 081 855 1503 (10-4 Mon-Sat)**

\* only 1 Megabyte machine



**ATARI** software utilities for 1MEG ST Timeworks (DTP) £40, Hyperpaint - £10, Flairpaint - £10, GFA Draft - £40, Cyber Studios CAD 3D - £40. All originals and boxed with manuals. Tel. Preston (0772) 720218.

**FOR ST** hisoft power basic, manual, quick ref guide £15. GFA basic compiler with manual. Both originals £6 plus postage. Phone 091 3861493. Any evening, after 6pm.

**AMIGA** Public Domain. Only £1.20 inc p+p. demos, music, utilities, games. Timo, 10 Valentine Way, Chalfont - St Giles, HP8 4JB. Hi: Jamie, Martin, Qt, Perry, and everyone else! Bye!

**ATARI** Mega 4ST 4 Meg memory Hirez Montor 43 Meg hard drive. All very little use will split, open to offers. (0495) 272092. Wanted Amiga A500.

**31/2" DISKS**, 40p each! 100% error free, 1 for 1 guarantee. This price includes postage and packaging unlike many official outlets. So for an Easter bargain. Phone John on (0242) 520634. Now!

**GAMEBOY** plus Tetris, Super Mario Land, headphones etc. Only £70. Also Amiga ten - pair games only £22. Phone Mark on 0395 515569, after 6.15pm. All good condition.

**P.D AMIGA** 10 disks for £7. inc p+p various games utilities music etc, or ring for list. Phone (0636) 605299.


**AMSTRAD** DMP 200 80COL DOT matrix printer. Boxed as new £55. Amiga contacts wanted to share interests.

**C64** power supply and games on tape and disk. Reasonable offers. 0926 400085.

**STAR** LC10 II printer in perfect condition less than one year old, boxed little used, ribbons etc. Please ring Gavin, 0602 817198 £115.

**AMIGA** Garrison £5, ST Falcon £5 both boxed, also wanted CBM version of Pitfall one and two cash paid, Amiga F19 wanted. Tel 0630 58329, after 5pm.

**PANASONIC** 5.25 Floppy Drive new, never used £30. Tel 0582 425982 (Luton)



**KAO**  
**MF2DD**  
1Mb capacity

**OPENING HOURS**  
Mon-Fri 9.30am-7.00pm  
Sat 9.30am-6.00pm  
Sun 10.00am-3pm

**THE WORLD'S FINEST DISKS FROM T.D.K & KAO SERIOUS QUALITY FOR SERIOUS USERS**

BRANDED BOXED IN 10'S WITH LABELS		KAO	TDK
3.5"	MF2DD	135 tpi DS/DD	£8.00 £9.00
3.5"	MF2HD	135 tpi DS/HD	£15.00 £16.00
5.25"	MD2DD	96 tpi DS/DD	£5.00 £8.00
5.25"	MD2HD	96 tpi DS/HD	£8.00 £10.00

KAO DISKAROO DISK WALLET CONTAINING 10 BRANDED MF2DD DISKS £10.00


**1 MEGABYTE** 3.5" MF2DD BULK 50p each or  
**2 MEGABYTE** 3.5" MF2HD BULK 75p each or

**50** £24.00  
**100** £48.00  
**200** £96.00  
**400** £192.00  
**800** £384.00  
**1600** £768.00

KAO MF2DD BULK DISCS 8 COLOUR: BLUE, GREY, RED, YELLOW, GREEN, BLACK, ORANGE, FOG WHITE

(PURCHASERS OF 100+ DISKS: WE WILL INCLUDE A FREE 3.5" DISK DRIVE CLEANING KIT)  
All above disks are 100% error free & warranted free from defects & as such carry a 1 for 1 guarantee  
**POSSO BOX 3.5" +5.25" ONLY £14.00 EACH.**  
**DISK BOXES** 3.5" 40 cap £4, 3.5" 80 Cap £5, 5.25" 50 cap £4, 5.25" 100 cap £5  
**STAR PRINTERS** LC-10 Mono £150, LC-200 Colour £210, LC24-200 mono £255, LC24-200 col £290.  
**HP DISK JET 500 ONLY £495.** - All include FREE IBM printer lead.  
NB All prices inc. VAT with FREE postage & packing on orders over £50.00. Overnight delivery £8.00 extra.

**K.C. VIDEO, 6 & 8 DONCASTER ROAD, SOUTH ELMSALL, NR. PONTEFRAC, WEST YORKS, WF9 2YZ**  
TEL: (0977) 649100 FAX: (0977) 643312



**OKI** Microline 321 printer, as new 300CPS draft, 62 5CPS NLQ, Epson, IBM Proprinter and Graphics Emulation still boxed retails at £525 yours for £300 o.n.o. Buyer collects. Phone 091 5846426 (Tyneside).

**PROFESSIONAL** page latest version 2.0 unwanted upgrade £100 o.n.o. Phone Roger 021 308 8188, after 7pm.

**ATARI** Mega ST1 for sale, includes built in clock, blitter, 4096 colour palette, mouse + keyboard. Boxed, only 3 months old. Call Daniel with your offers on 081 771 2969.

**AMIGA** 500 (1Meg) Cumana 2nd disk drive and joystick plus software. Everthing boxed, V.G.C. £350 o.n.o. Bargain! Phone Lee after 5pm (0270) 582501.

**AMIGA** 500 within extra MEM (512k) Fatter Agnus boxed £250. Tel 0529 304907.

**AMSTRAD** CPC 464 with modulator, joystick and £300 worth of games £195 o.n.o. Also Spectrum 48k, with interface, joystick. Around £100 worth of games. £55 o.n.o. Tel: Walsall 0922 645029.

**ATARI** STE 1Mb RAM upgrade. Solderless Simms, just plugs in. New at Christmas from Evesham Micros. Cost £40, sell for £25. Can advise on fitting. Tel 078139 3971.

**PC** Engine (Scart) + 2 controllers multitap AV booster 10 games £185 M/Drive games wanted pay £20 Megadrive 4 games £200 Commodore 64 Joystick + lots of games all boxed £130. Phone 081 2009628. After 5pm.

**TYPECAST** P.O.L! Public Domain library for the Atari ST/STE. Solely DTP, WP, Art and Clip Art. No Games! Send disk + SAE for catalogue: 31 Hartfield Crescent, West Wickham, Kent, BR4 9DW.

**ATARI** ST games magazines July 88 to October plus original ST games, Football Director II, International soccer, Dutron etc. Offers or swap for software also need external drive and colour monitor. Write to, Mr. Webb, 125 Warrington Rd, Paddock Wood, Kent, TN12 6JR.

**DICONIX** Portable Inkjet Printer Epson and IBM Modem PAR-I/F 12 jets NLQ 80COL perfect for any Laptop. Sale to first offer of £170. Ring now now now, David 0934 513086.

**AMIGA** A500 plus 1MEG plus games new PSU, Modulator and Joystick. Excellent condition £395 on.o. Phone 0772 720218. Will deliver (within reason). V1.2 machine.

**ATARI** Lynx for sale, Zarlör Mercenary, plus California games and power pack with leads. Excellent condition, will sell for £110 o.n.o. Phone, Rich after 6pm on 0272 836696.

# TCB TRACKER



"MUSIC SOFTWARE OF THE YEAR" STF

ST VERSION ONLY

An Instant ST Classic NCE

Finest 4 Track Sample Player STF

**£24.99**

**mph**  
COMPUTER SPECIALISTS LIMITED

10 Chandlers Court, Eaton, Norwich, NR4 6EY

Telephone: 0603 503382



**AMSTRAD** PCW 8256 with Monitor, Printer, Word-Processor Software, etc. Only £270 o.n.o. Phone (081) 368 0934. Barnet.

**SWAP** Atari 520 ST FM with IBM DS disk drive and £250 + games for 520 STE with no software! Will also consider sale. Phone Adam on 0947 810552 on evenings 5.30-9.30pm. Except Wednesday.

**STAR** LC-10 colour printer extremely fast with full colour dumps extensive paper handling very good quality print built in fonts, just £150 with Amiga leads boxed. Tel 081 560 6116.

**TELEX** printer £30, 200 71/2 disks £15, 51/2 disks 20. £5, 40 track 51/2 disks drive £20 (uncased) o.n.o. 31/2 disks 50p each (Sony). Poole 0202 605399.

**PRIVATE** investor share program for Commodore £30. 061 998 3494.

**FOR SALE** Amiga 520TV modulator plus leads, modulator extension cable, £25. The lot, you collect or pay postage. Phone 081 641 5252.

**ATARI** 1040 STFM 20 Meg supra hard disk drive twin 31/2, 51/4 drives Pace Linnet Modem. Will sell altogether or will split all offers welcome. Tel (0495) 272358.

**AT - ONCE** PC Emulator, no longer required £120. Also Fleet Street Publisher V3, still wrapped, acquired in error £130. Tel: 081 390 1143. Evenings or 081 541 2200 X465 contact Bill.

**AMIGA** software. Killing Game-show £12, Wings £14, Spaceage £15, Rainbow 15 Lands £10, Phone for full list. Gavin (03752) 3201.

**PRINTER** for sale. Ok Mate 20,24 Pin, colour printer + lead, manuals and ribbons. £80. Phone (03752) 3201 or (0708) 868166, and ask for Gavin.

**MODEM** for sale 'Case' 400/213. BT approved. Retail price £360. Modulation FSK to CCIT V21/V23. Manual/auto answer manual/auto dial. Best offer secures buyer collects. Tel Ron, 091 5846426.



Nintendo

SNK'S

NEO GEO

**SEGA**

**MEGA DRIVE**

NINTENDO GAMEBOY

PC Engine

New and used games/consoles.  
Buy/Sell/Part exchange.  
Buy one new game - Get console at trade prices!

**LOS ANGELES GAMES**

FOR FURTHER DETAILS SEND S.A.E TO:- L A GAMES, 2 ELLACOMBE ROAD, COVENTRY CV2 1BP - HURRY!  
Tel: 0203 621 577



**BBC Model B** with sideways RAM 16K 40/80T disk drive plus Watford Electronics DDFS 1.54T filing system plus 81-disks many games cassette recorder + Acorn Electron package needs attention plus games all £280.

**SUPER** Graphx, Joypad, Joystick (Scart) several games including Battle Ace, Grand Sword, CD - Rom Connector, PSU, leads. Reluctant sale of superb machine. Details (0793) 782748. Adam.

**ATARI 520 STFM** for sale £800 of software in very good condition will sell for £250. Tel S. Albans 0727 864956.

**TEMPUS** for ST £12, monitor stand £9. Spirit of C £8 (0225) 837278, evenings (Darryn).

**MEGADRIE** for sale includes 3 games: Mickey Mouse, S.Shinobi and Altered Beast. Excellent condition (boxed) £140 o.n.o. Phone Steven 0532 825254.

**SELECTIONS** English Dictionary Thesaurus 100,000 Word Speller Pocket Sized £35 Also PSION Organiser Finance Pack 2, unwanted gift £20 Sharp CE155 8K RAM for PC1500 £7. Please phone Kelvin 0293 776406.

**AMSTRAD 9512** Locoscript 2, Masterfile, Supercalc Cimstax Desk with Paper Catcher, covers 5 Daisy Wheels, Reeltime Training Courses Manuals and other books plus 20 Disks. Price £420. Tiverton (0884) 860707.

**PHILIPS CM8833** colour monitor as new £120. Atari ST original software going very cheap. Contact Roger on 076-886-200.

**COMMODORE 8296-D** with green screen monitor Dual 5.25 Floppy Disk Drive + Silent Scribe Wide Carriage Dot Matrix Printer £100. Telephone 0495 246406.

**AMIGA 500** or A2000 accelerator board with 33MHZ 68030 and 33MHZ Co Processor £550. 081-291-3593 After 6pm Richard.

**AMIGA** Public Domain Software for sale or only £1.50 per disk. SAE for list to M.Sutton, 8 Heol, Cleddau, Waunarlwdd, Swansea, SA5 4QF.

## MEGADRIE GAMES

Mickey Mouse	32	Moonwalker	35
Strider	35	ESWAT	30
Thunderforce 3	32	Hellfire	30
Magical Hat	32	Hard Drivin'	32

ORDERS DESPATCHED SAME DAY SHAFWARE LTD  
PHONE ANYTIME ON: 27 SMITHAMDOWN RD  
**081 763 0437** PURLEY  
OR: SEND A CHEQUE PAYABLE TO SURREY  
SHAFWARE LTD CR8 4NG

**ATARI 520 STFM** plus mono monitor original packaging £250. Midi software for Atari ST520-Gatjits sequence one £50 Steinbergh Twelve £35 band in a box inc.. Fake books £35 (0252) 547494.

**MICROSOFT** word for windows unwanted prize still in unopened box. List price £425, will accept £200. Tel Tony on 081 668 0209.

**AMIGA** monitor. CM8833 stereo colour monitor still in box, unused. £160. Star PL10 colour printer with ribbons, boxed as new, £120. Prices include next day delivery. Ring 0224 824904.

**A200**, Double Disk Drive, Monitor, all accessories and manuals, Joystick, £500 worth of serious software, £200 worth of games, all software originals with manuals. £650 o.n.o. 071-582-7421.

## COMPUTER REPAIRS

Most makes of home and business computers repaired at competitive rates - phone for quote or send computer with £25 to cover estimate charge and return carriage for prompt professional service.

### Computer parts and spares

We can supply a wide range of spares and parts for building your own PC compatible computer - phone for a quote or send list of requirements

**GMC COMPUTERS**  
The Green, Cavendish,  
Suffolk, CO10 8BB  
Tel: 0787 280526



**PORTABLE** Tandy 102 Computer. 40 x 8 LCD screen. Text Processor, Moving - Key Keyboard schedule and addresss list programmes. £90. Tel 051 724 1767.

**ST Stuff:** HI50FT C Interpreter £30. VIP ST £20. Phone Tim on 0322 275755.

**AMIGA** PD over 200 Disks, 75p or Disk including postage, send SAE for list to Pete Smith, 10 Linden Rise, Bourne, Lincs, PE10 9TD.

**AMIGA 500 ONE MEG**, 2 External Drives, Action Replay MKII, LC200 Colour Printer with Tribons, lots of software, mouse Books etc. £600 may split. Tel 0778 393470. Ask for Pete.

**SYNTHESISER** bargain: Kawai, K1 11 months good condition hardly used plus RAM-Card and Music-X worth £100.00. All for £360. Tel 071-473-1203. After 8pm.

**ARCHIMEDES** A310 with colour monitor, Risc os PC Emulator, Autosketch, welcome disks and games. Extra 51/4" external drive. Boxed with manuals. Perfect condition. £575. East Grinstead (0342) 315187.

**ARTIST II** For Spectrum +2 only £5. Phone Peter on 031-4417952. Also, +3/+2A Printer Interface £5.

**QUARTET** for Atari ST only £30. STOS Maestro plus £35. STOS Game Creator £12. Hyperdraw £10. Phone Peter on 031 441 7952.

**HUMDINGLY** cheap PD Software for ST. Send 3x1st class stamps for Disk Catalogue to, 47 Auchingane, The Tryst, Edinburgh. EH10 7HX. All Disks, £1 each. Over 200 Disks listed.

**SEGA** Master System for sale, 2x2 Meg, 1x1Meg Carts Free. Also included are two games cards: Rocky, Choplifter, Dutrun Supertennis and Hangan! the lot £85 call Mark (092572) 6965 worth >£180.

**MAGAZINES** for sale C.Cl Jan 88 to Apr 90 £15. Amiga user intern from issues Feb 88 to Mar 91. Price £25. Tenstar Software pack RRP £229.50. Sell for £50. Phone (0932) 224586 Buyer collects.

**AMIGA XCopy 2.1** Software and Hardware £15 + p.p. Kickstart 1.2 Chip £10. Fat Agnus 8371 CHIP £20. To swap FF1 and Roger Rabbit. Tel Viper 0473 713715 Between 6-9pm.

**BROTHER** Fax 150 boxed nearly new was, £440 plus VAT selling £330. Ring John day only.

**AMSTRAD** CPC 6128, Colour Monitor, Disks, Printer Cable + loads of great games, Tape Recorder. Also many utilities, including Maxidos:- By Microstyle, great bargain at £520 o.n.o. Tel 0245 320089.

**APRICOT DD** with Juki Printer. Cheap for quick sale £260. Mornings. Tel 0293 532461.

**SPECTRUM 48K**, Interface two microdrives, Timex 2040 Printer, Komix Liberator, Joysticks, all boxed. Books, Manuals, loads of Software, GAC, games utilities etc. £120. Phone Robin on Farnborough (0252) 549932 after 7pm.

**AMSTRAD** PCW8512 excellent condition, Locoscript, Stoppess, Mini office Prdf. Chitchat Viewdata, games, many blank disks, disk box. All blanks covered. Printer AMX Mouse. Many books. £350 o.n.o. Call David 081 3186406.

**AMSTRAD** PPC640DD Portable Twin 31/2" Drives built-in Modem, carry case, comms and Personal Organiser software twenty blank disks and disk box £340 o.n.o. Phone 0256 798761 (working hours) Ask for Kevin.

**ATARI Lynx** two games multiple voltage adaptor for only £100 or exchange for a gameboy. Call after 5pm.

**AMSTRAD** 6128 Colour Monitor, Joystick, £600 worth of games, mouse, art package, disk box loads of Amstrad Action mags, tape leads, books, manuals, Tapes. Cost £1035, sell £395. TEL 081 8596122.

**ATARI 520 STE** Turbo Pack 4 MEG upgrade two weeks old. £450 o.n.o. Philips Monitor Television Tuner £35 o.n.o.

## M&S GAMES

CALL 0268 691658

MON-SAT 10AM-9PM

1 free quality blank disk & second hand game voucher with every order over £13.  
★ Buy any new game off us and we will buy it back at half price when you're finished with it. ★  
★ We buy, sell and exchange second hand games, call for details ★

ST & Amiga	ST & Amiga	ST & Amiga
Robocop 2 .....16.99	Toyota Celica .....16.99	Hollywood Collection 19.99
Chase HQ 2 .....16.99	Escape from Colditz..19.99	Stun Runner.....16.99
Teenage Mutant Turtles 16.99	Tournament Golf .....16.99	Car-Vup.....16.99
Total Recall .....16.99	Lemmings .....16.99	Hard Drivin 2.....16.99
Pang .....16.99	Ninja Remix .....16.99	Speedball 2.....16.99
ESWAT .....16.99	Epic .....16.99	Billy the Kid .....16.99
Line of Fire .....16.99	Toki .....16.99	Team Suzuki .....16.99
Final Whistle .....9.99	Silkworm IV .....16.99	Navy Seals.....16.99
Strider 2 .....16.99	Power Pack.....19.99	B.A.T. ....19.99
		Turrican 2 .....16.99

We have too many games to list, phone for any not listed here. All prices include package, postage & VAT. We will also exchange your old titles for new ones.

Send cheque, postal order to:

**M & S GAMES, 12 Wilrich Avenue, Canvey Island, Essex, SS8 7RR**



**SEGA** Megadrive (SCART) nine games and Arcade Powerstick (JAP) Machine £345, or nearest offers. 34 Addison Way, Northwood, Middlesex, HA6 1SY. One month old, unwanted gift, all boxed.

**COMMODORE** 64, Disk Drive, Cassette Player, Action Replay Cartridge, Joystick, Tapes £220 o.n.o. contact: C Sadler, 40 The Oval, North Anston, Sheffield. (Buyer Collects)

**HERCULES** Screen. Mono monitor. Box in excellent working condition £50. Tel 081-365-0326.

**MONO** Monitor for Amstrad CPC464, £45 including post and packing. Tel. (0443) 791598.

**PUBLIC** Domain Software: quality games, Demo's Utilities etc for Atari ST/STE. Disks only 99p. For free catalogue disk, write to: ST-PD, 66 Abbey Road, Strood, Kent, ME2 3QB. (Over 200 available)

**AMIGA** Originals at low prices. Games and utilities including: Manx-c Compiler, Sonix, Pro Sound Digitizer and Hardware, send SAE for list to: D. Thorburn, 13 Charles Close, Waterlooville, Hants, PO7 5TL.

**A500** 9 months old, Fatter Agnus, Seals intact, 2nd Drive, 1-MEG RAM, Lattice C5.10, Power-windows GFA basic-3-5. All mint £500 no offers ring Alan 0372 379349.

**AMIGA** games. Back Future 2, Beast 2, Days Of Thunder, Night Breed. £8.50 each, 2 for £15. All 4 - £25. Original unwanted Screen Gems Pack. Tel Steve 0359 268146, evenings.

**FOR** Commodore 64, Midi Interface + Software (Disk).. SFX Sound Expander + Software (Tape) + Keyboard SH-10 Midi Keyboard Midi Cables full Manuals etc. £75. Tel. 081 858 6280.

**ATARI** 1040STFM 20MEG Supra Hard Disk Colour Monitor External Disk Drive Twin 31/2 51/4 Drives Pace Linnet Modem. Will sell together or will split all offers welcome. Telephone (0495) 272358.

**SEGA** Megadrive with 10 games, Joypad and Arcade Power Stick. Games include, Mickey Mouse, John Maddens American Football, Shadow Danger etc. Worth over £550. Sell for 325 o.n.o. Phone Johnathan 081-907-6144.

## Sinclair & SAM COMPUTING

### New Magazine!

*Sinclair & SAM Computing* is a brand new monthly A4 magazine for users of the Spectrum, SAM Coupé and Sinclair QL. It caters mainly for 'serious' users and provides services such as a free telephone and postal helpline, public domain library, mail order service, and much much more. What's more, issue 1 of *Sinclair & SAM Computing* is being launched at the **All Formats Computer Fair** on **Saturday 23rd March** at the **Horticultural Hall, Greycoat & Elverton Street, Westminster, London**. We'll also have a selection from our mail order range at the show. So if you own a Spectrum, SAM or QL then visit our stand for some great bargains.

However, if you can't get along to the show, you can obtain a **FREE** info pack by writing to: **Garner Designs, 57 Lovers Walk, Dunstable, Beds, LU5 4BG**

**TESTBOOM LTD Tel: 0695 571605**  
**286 from £600**  
**ST's CALL**  
**Atari TT's available**

**AMIGA** Action Reply MKII for sale still boxed with guarantee absolutely brand new £55 or will swap for External Disk Drive plus Expansion Board. Phone Matthew 0803 864228.

**AMIGA** B2000 4MB EX+ Drive 1084S Monitor Midi Box software inc. Music X games and utils. All in excellent condition. £1000. Phone 061 681 0808, after 6pm.

**AMSTRAD** Computer Magazines, January to July 88. £6 each. Amstrad Action Numbers 36 onwards, £12 each. Send cheques payable to Ben King, Panton Farm, Hatton, Wragby, Lincs, LN3 5LS.

**SEGA** Megadrive for sale and also available are the very latest in Megadrives at reasonable prices. Ring 0223 350422 for details. Ask for Kaizer. I have approximately 30 games.

**MEGADRIVE** Games for sale all at very reasonable prices. I have very latest titles available and also have a Megadrive for sale. Ring 0223 350422, after 6.30pm. Ask for Kaizer.

**SPECTRUM** 128K, complete with P.S.U., Interface Joystick, £500+ Software. Bargain £150 o.n.o. Also 2 Microdrives working plus 20 Cartridges. Only £40 o.n.o. both lots together £175. Details Steve 081-517-6772, evenings.

**ACORN** Electronic plus 25 games, P.S.U. leads etc. Ideal 1st computer only. £45 o.n.o. Details Steve 081-517-6772, evenings.

**SOFTWARE** sale Spectrum, Commodore 64, VIC 20, C16, Electron Tapes, bargain pack of 10 Tapes £5.00, inc p+p. Details Steve 081-517-6772, evenings.

**BRAND** new Demo's available shortly for the ST. Do you require Demo's for your P.D. library? Also Degas Screen designer wanted. examples/SAE to:- Nightshift, 8 Bertelin Road, Stafford, ST16 3JJ.

**AMSTRAD** LQ3500 Printer hardly used. As new, boxed, £200 o.n.o. AA's 1-66 plus binders £75 o.n.o. Ring Philip on 0245 491827, evenings/weekends.

## PLAY BY POST SPORTS

**Cash prizes, trophies, league and cup competitions, American football, rugby, cricket, basketball, speedway etc.**

**For details send SAE with your preferred sport to:**

**PBP SPORTS, P.O. Box 598, Bournemouth BH6 3YB**

## FREE! Reader Ads Order Form

PLEASE TICK THE CATEGORY YOU WANT YOUR AD TO GO IN:

- |  |  |  |                                   |
|--|--|--|-----------------------------------|
| <input type="checkbox"/> HELP OFFERED  | <input type="checkbox"/> GOODS WANTED  | <input type="checkbox"/> BUGS DISCOVERED | <input type="checkbox"/> EVENTS   |
| <input type="checkbox"/> SERVICES      | <input type="checkbox"/> VIRUS WARNING | <input type="checkbox"/> FOR SALE        | <input type="checkbox"/> PERSONAL |
| <input type="checkbox"/> ANNOUNCEMENTS | <input type="checkbox"/> MINI-TIPS     |  |                                   |

NAME \_\_\_\_\_

TEL: \_\_\_\_\_

ADDRESS \_\_\_\_\_

WRITE YOUR FREE AD HERE USING ONE BOX PER WORD IN BLOCK CAPITALS.


Send your reader ads to:

**SHOPPING EXPRESS READER ADS,  
30 MONMOUTH STREET, BATH BA1 2BW**

### Terms and conditions

- Sorry, NO trade ads. All reader ads must be from private individuals
- We cannot vouch for the quality of goods and/or services offered in this section. All ads are accepted in good faith.
- We reserve the right to amend or refuse reader ads at our discretion
- No pirated software may be sold through these columns. Any reader being offered non-originals should contact us
- We cannot guarantee that reader ads will appear in particular issues of Express
- The following declaration should be signed:

My advertisement conforms to the terms above and is legal, decent, honest and truthful

Signed \_\_\_\_\_



VGA compatible entertainment shareware, full 3.5" menu driven disk either 1 x 1.44m or 2 x 720K £6 inclusive or SAE for info. W.D. Owen, 9 Ithens Way, Sontley Road, Wrexham, Clwyd.

CPC6128 colour monitor, DMP2000 printer, multiface 2, Mouse, Tape Deck with leads, Protex, Stop Press, Compiler, 50+ Games 70+ magazines worth £1000+. Serious offers to 061 941 2862.

## FUTURE WORLD STOCK CLEARANCE

3 1/2 Bulk Disks .....£0.28  
Atari Dust Cover ...£1.95  
Amiga Dust Cover.£1.95  
Mouse Mats  
(Hi-Tec).....£2.00  
1/2 Meg Upgrade

(with Clock).....£28.00

### Disk Boxes

3 x 40 Box.....£2.50  
3 x 80 Box.....£3.20  
2 x 100 Box.....£3.50

Call - 0827 67334 (24Hr)  
Delivery £2.50

Unit 12 Amber Business Village  
Amber Close Tamworth  
Staffs B77 4RP



SPECTRUM 128 + 2 for sale good condition, Kempston Interface and Cheetah Joystick, over 100 titles of software, with packaging only £130 o.n.o. Please contact Joe Feeney, Folkestone (0303) 49904.

C64 MPS 801 printer, dataset, power pack 500 sheets of paper, light gun joystick, plus lots of software. Sell for £125 o.n.o. Phone Kentish Town, 071 482 6841.

AMIGA Musician wanted contacts: Bill 133, Longshaw Drive, Little Hulton, Manchester, M28 6BD. Original produced on request. Any ST? Sample.

AMSTRAD PC2086. 32MB Hard Drive. NEC Multisync 2A VGA Colour Monitor. £750 o.n.o.

SPECTRUM Dual Wafa Drive for sale. Never been used £5.

ST REPLAY Pro Sound Sampler plus 25 old ST Games thrown in for just £65 good HUH. Tel Lincoln, 0522 542973, after 6pm.

AMIGA Bingo Program. Full Speech Callout Board Printer. Number Checker. Includes free copy of Maniac Bingo. Excellent value at only £2.50 CHQ's P-Os to, D.Brown, 2 Ashfield Grove, North Shields, Tyneside.

CHEAP PD for the Amiga. Swap yours for mine, or 75p each, send SAE for list, write to, Joe Crosby, 24 McFarlane Place, Uphall, West Lothian, Scotland, EH52 5PS.

STORM PD. The new Demo's only library for the Atari ST. Over 180 Disks all £1.50 each. Send disk for catalogue to, 10 Oak Drive, Portishead, Bristol, Avon, BS20 8QS.

AMIGA games: Dungeon Master, Super Hang-On, Ballistix, Pioneer Plague and Stag, plus more than 40 mags, £30. 081-894 3982.

SPECTRUM - budget & full price, 50p to £3. New titles, SAE please: D. Wood, 42 St. Hugh's Avenue, Cleethorpes, Humberside. All mint!

SPECTRUM +2, interface I, Microdrive + cartridges, lightgun + interface, carrierbag of games - £195. 041-956 2506.

TANDY 1000HX PC, 2x31/2 Internal D/Drives, 1x51/4 External D/Drives, Colour Monitor, printer, Joystick, Cables, Manuals, Software, new £1200, sell £700 ono. May swap Amstrad 1512 with printer.

ATARI 520 STFM + 1/2 MEG Hi-RES Monitor Mouse PD Software £250 ONO.

PC GAMES Boxed original Falcon (Flight Sim), Elite 31/2" Disk £15 or £10.00 each. Phone 0208 831532 After 6pm.

OLIVETTI PC5-86 Colour EGA Monitor Dual 31/2 Disk Drives Naksha Mouse Game Card Joystick 1992 Package Plus others 4 months old £650.00 Phone 0208 831532 after 6pm.

COMPAQ SLT/286 Laptop. 40 MB Hard Drive Mouse and lots of Software bargain at £1350 o.n.o. Tel 0244 373118

IBM Sound Blaster Sound Board still boxed, bargain, only £120 cost £200 new. Tel Kirdford 040377 545 WSX.

HALF MEG Upgrade STE Sipps Boards £20. Also V2L/23 Baud Modem plus P.S.U. only £20. Phone (0602) 507999 (Even.)

AMIGA Bingo program. Full Speech Callout, Number Checker, Card Printer included. Also includes "free" Maniac Bingo Program. Excellent value for only £2.50. Tel: 091 2595702.

STRIDER and Ghouls 'N' ghosts. Boxed in good condition £174. Tel: 0925 75 4175.

AMIGA A5000 with over 200 disks, 1 MEG, hard cover, joystick, mouse, mat plus Hi-Fi amp and speakers for stereo sound £400. Split sound system for £60. Tel: 092575 4175.

ATARI portfolio still boxed unwanted gift £100. Also Casio SF 8000 still boxed £40. Tel: 0236 824049 evenings.

CBM 128D runs all 64 software. All in one unit. Drive power pack and keyboard, plus data cass. £190. Tel: 740 8188.

48K Speccy, printer, tape recorder, joystick, joystick interface, lots of mags (YS), and other games including Sim-City. All for £100. Tel: 0244 682266.

SAM Coupe, disk drive, latest RON plus DOS, defend games plus music picture disk plus leads plus manuals only £150! Tel: 0925 821372.

COMMODORE 64+ joystick, £300 + worth of software including Kick Off 2, Stealth Fighter, Gunship only £110 ono. Tel: (Weymouth) 776703. Ask for Darren.

GAME Boy Plus 5 games AC adaptor all boxed with instructions, four months old cost £180 accept £100, bargain. Tel: 0638 662906, between 8-5pm Mon to Fri, ask for Graham.

CLEAROUT! CBM plus 4 with extras £40, Multiface II plus £40, 15x8" floppies £10, the lot for SCART PC engine with carts. Tel: 09443 433.

ATARI 520 STE Turbo 1990 Christmas present, £300. Reason for sale I have won Archimedes A3000 in Computer Express. Tel: 0977 701801 after 5pm week days.

C64 original software for sale on disk, and tape prices from £1. Robocop, Rick Dangerous 2, and hundreds more. Tel: 081 449 8249.

2 X Spectrum 48K excellent condition £450, software, datacorder, joystick it must be worth over £550. Will sell for £195 ono. Tel: 0945 772943.

STAR LC10 mono printer in excellent condition and boxed - £135. Call evenings or weekends: 0705 864006.

IBM compatible, 640K, 5.25" mono with mouse £370. LQ 24 pin printer new £200. Tel: Paul on 0762 851641 after 6pm.

AMIGA software. Powerdrome, Stunt Car Racer, Fast Lane, Falcon, Crazy Cars II, Super Hang On, £10 each or £50 the lot. Write: M. Sutton, 8 Heol Cleddau, Waunarlwydd, Swansea.

## COMPUTERS

### FOR HOME AND BUSINESS USE (PRICE SMASH)

Amiga's Screen Gems Pack.....£329.99 Sega Megadrive .....£159.99  
Atari ST Discovery Packs .....£239.99 Mega Master Converters.....£29.99  
Atari STE Turbo Packs .....£329.99 Phillips CM 88133 MK II Monitors.....£239.99  
Lynx's from .....£99.99 Atari SM 124 Monitors .....£109.99

### PLUS GREAT PRICES

ON PRINTERS, DISC DRIVES AND MEMORY UPGRADES.

### Mega Deal On PC'S

we also supply Business, Music / Art & Entertainment Software  
Tel: SGM ELECTRONICS WIGAN 0942 321435



Now Open  
Monday To Thursday 11am - 9pm  
Friday To Saturday 11am - 7pm or later



SUPERCHARGER for Atari. State of the Art IBM Emulator, Multitasking between TOS and MSDOS! Contains 1MB RAM. Unused Christmas present Cost £300, absolute bargain at £200. Full software. Tel: 078139 3971.

SEGA Mega - Drive (PAL) (JAP) includes monitor and TV lead plus two fab games, only £135 and one month old. Very good condition, beat that then! Tel: 0742 438542.

PC Engine Super Grapmx (Scart), six games plus CD ROM adaptor plus booster £250 or swap for SCART engine and £200. Ring for details 0793 782748.

AMSTRAD MP-2 modulator for CPC range, connects CPC to colour TV, £20. Tel: 0405 817325.

ST Software Art and Film Director £25, STOS £18, Master Sound Sampler £20, Shoot-em-up Construction Kit £16, Robocop £8, Double Dragon £8, Summer Games £10, Super-cars £8, plus postage and package. Tel: 0442 865027.

AMIGA with 1/2 MEG update and stereo with speakers in good condition with quality software, Caphive, Speedball II, Prince of Persia, Dungeon Master, Muds, call Felix, Tel: 0273 602354.

COUPE Database, thousands of addresses etc, per disk. Alphabetic Sort, Very fast search, Edit and view options only £4 on disk. Tel: (Oxford) 300849.

ATARI STFM - One year old with mouse, joystick and software £200 ono. Tel: 091 5840146.



**LYNX** with California games, Electro Cop, PSU and Comlynx cable. All boxed £140 phone (0457) 865406.

**AMIGA** Sim city, back to future 2 night breed days of thunder beast 2 silent service weird dreams £8 each 0224824904.

**AMSTRAD** CPC 464 Green screen and tv modulator, 100 games including savage, robocop, super wonder boy and many other top titles excellent condition boxed £250 or nearest offer.

**BBC** Master with W-P roms £275; dual drives in plinth £135; Epson SX-80 with sheet feeder £95 Pet'bro 232931.

**ATARI** SF354 1/2 meg disk drive boxed as new £35. Contact Nick on 0268 756395 (Benfleet, Essex).

**ATARI** 520 STFM, one MB drive, external one MB drive, software - joysticks, loads of mags and cover disks £330. 051 6089761.

**MICRODRIVE** cartridges (45) £1 - 50p each. ZX printer paper 5 rolls £12. Curruh Speech £10 Last Ninja 2, Driller 48K Spectrum £6 each. Phone after 6pm. 0272 856574.

**ATARI** 520 ST(E) with Epson printer, games, joysticks, mouse, manuals and books. Bargain at £350. Phone 0761 35180 and ask for James.

**FOUR** track recording studio MT FI all in one comes complete with 4 microphones, was £400 will accept £300. Contact Paul 0744 21394.

**APPLE** 11E and 80 col card £100. Hard disk and tape streamer £185. Apple 11ev and £25 modem £30. Disk drive £35. Many other bits. Please enquire 0935 72490.

**AMIGA** 500 plus original games including Batman Operation Wolf Pac land plus joystick mouse etc all for £200 call Linden on 081-450-8692 Afternoons.

**AMIGA** software over £1900 of original boxed games Corporation, Op Stealth, Kick off 2, Sim City, Man Utd, many more only £250 no offers phone Jason 081-869-3839.

**A2236** Amiga 2000 bridge board 6 month guarantee with maths on board go-processor bargain at only £450 Phone Jason 081-859-3839.

**STAR LC10** colour printer excellent condition hardly used only £120 No offers Phone Jason 081-859-3839.

**LOTUS** Symphony Vol 2 complete with Disks and Manuals, New. Never used. £150. Windows 386 new and not registered complete with Manuals and Disks £30.

**WARGAME** Construction set for PC (3-5 and 5.25) E10 (including postage) Also some C64 games (50p to £2.50) Ask for list. Chris Ward, 778 Obelisk Rise, Northampton, NN2 8TP.

**GREAT** Amiga games. P47, Turbo, Battle Valley, Introcad, Third Courier, Pioneer Plague, Turbo Cup, Rodeo Games and Flying Shark. Sell all for £55 o.n.o. Tel (0462) 731685. Ask for Ross.

**TYPECAST** PDL. New public domain library for the Atari ST/STE. Soley for DTP, WP, Art, Clip Art. Send Disk and SAE for Disk catalogue. 31 Hartfield Cres, West Wickham, Kent BR4 9dw.

**AMIGA** Public Domain. £1.20 inc p+p. Demos, music, utilities, games. Timo 10 Valentine Way, Chalfont-St-Giles, HP8 4JB HI to: Perry, Hax, Chloride, and all finish readers! Bye!

**AMIGA** Software for sale. Guaranteed all originals, only £3 to £10, or swap for some of your Public Domain Disks. Send your list of P.D. To: Ken, 280, Shortheath Road, Erdington, Birmingham, B23 6LB.

**AMSTRAD** PPC460D Portable in excellent condition will all original Manuals, Software, etc. £350 or may consider swap for Amiga 2nd Drive, Monitor, RAM Upgrade. Phone Billercay (0277) 631400.

**F-16** Fighter Sim called Falcon A.T. includes 31/2 and 51/4 disks, boxed new it is for IBM's. Phone Zahid (081) 673 6169.

## ALL COMPUTER HARDWARE AND SOFTWARE WANTED FOR CASH OR EXCHANGE

NOTHING REFUSED!!

071 221 1075

**SUPRA** modem 2400. 300, 1200, 2400, Baud. Power Back, Cabels. Brand new, boxed, with receipt. £80 0772 883061. After 6pm.

**OLIVETTI** JP101 Printer complete with extra ink jets £25. BBC Model B needs attention. £25, call 081-539-5918.

**ATARI** Lynx. P.S.U. California Games boxed £80 call 081-539-5918.

**SEGA** Master System Games Ghosthouse £6 Altered Beast £12 Global Defence £10 Kenseidon £5, 081-539-5918.

**MEGADRIE** Games, Moon Walker £20 Fantasy Star 2 complete with 30 page Hint Book £30. Phone 081-539-5918.

**BARGAIN!** IBM PC-XT, 10MB hard disk, 51/4" drive, 256k, Hi-Res monitor V.G.C., complete system with w/p software, only £300 the lot. Ring Piers Vaughan on 081-330-6301.

**ATARI ST** Software, Twist Multitask £10. Kroget £15. Utilities plus £15. Power Basic £10. Microsoft write 320, Quantun paint £10. VIP Profess £30 first word plus V3.14 £35 0529 304221.

**COMMODORE** C128 plus 1570 MPS 1000 Ferguson Green Monitor loads of Disks and Tapes, Books, Manuals, details Tel. Steve (0642) 613382 may consider split or swap for right deal.

**1ST WORD PLUS** (Atari) V3.14 prints straight from screen, with first mail and dictionary merge. Full boxed Manual. £35. Kroget Thesaurus £15. VIP Profess. £30. Twist Multi-Task £10. 1529 304221.

**KEMPSTON** Datascan (ST). Complete with Cartridge, P.S.U. and Software £120. Naksha Mouse (ST Amiga Amstrad PC) £25. Utilities plus with extensive Manual £15, 0529 304221.

**AMSTRAD** CPC 6128 with Colour Monitor, Art Studio, Mini Office 2 and other Software. All very good condition. £300. Phone Andrew on 0483 722796 (Can deliver in local area).

**WANTED FOR CASH**  
We buy/sell P/X & repair IBM's, Amiga, ST, etc. Working or not.  
**DMR Electronics**  
0274 817889 or 881308

**SPECTRUM** original 48K model, good condition data recorder, games, revision software and all leads £30. Dunstable (0582) 660031.

**PC ENGINE** PAL inc gunhed. Pfect condition only £135 ono. Please ring 0403 68851 after 5 pm. Ask for David.

**SPECTRE** GCR Mac emulator for Atari ST, 128K Roms manual, master disks etc. £200. Mark 00272 357503 daytime 0272 427129 evening.

**AMIGA** 500 with joystick and software including Batman, Pacmania, Operation Wolf. All originals for £250. Call Linden on 081 4508592 before 4:30 pm.

**COMMODORE** 710 mono, 8250P DD. 8032P printer. 102KB Superbase. H/book. £95 cheap for sale. Buyer collects. 0293 32461.

**AMSTRAD** 8512, Loco 2, Locospell, Locofile, Makifile, Flipp82, Maskiscam, Kempston mouse, Centronics Superface, Mini Office, Stop Press, Polyprint, games, all you ever need £450. Tel 081-340 3694.

**SPEC +3** software for sale Tasword +3 and masterfile +3 database ex condition £15 each or both £25. Tel 091 2532455.

**AMIGA** A500 2nd disc drive 1meg boxed and instructions, 3 months guarantee. Good condition £24.00 ono (0903) 761885.

**MODEM** Racal 2400 auto answer, auto dial, complete with all leads, still boxed with instructions, £120. Phone Rob on (0656) 736986 (Maesteg).

**ATARI 130XE** disk drive, cassette recorder, joysticks, magazines and games c/w manuals, v.g.c. £150 o.n.o. Tel: (0784) 464598, ask for Ashley.

**AMIGA 500**, 6 months old with over £200 of games including PowerMonger, Kick Off 2, Hollywood pack, F of F pack etc. Cost £275. Phone Vis 071-582 9098 during evenings.

**MACINTOSH SE** twin floppy 1Mb RAM, with Macwrite, Hypercard etc. Bargain at £450. Phone Vis 071-582 9098 evenings.

**OLIVETTI** M15 portable boxed as new, 640K, Twin 31/2 floppies, Serial/Parallel ports, DOS + WP software, Azerty keyboard + extras £495 ono. Tel: (0752) 848962.

**ARKADIUM**

P.O. BOX 15, NORMANTON, WEST YORKS. WF6 2YR.

ALL PRICES INCLUDE VAT AND POSTAGE

### SEGA MEGADRIE (JAPANESE)

Import Megadrive, PAL Version, with PSU and Joypad. Including one game, choose from ESWAT or RASTAN 2. R.R.P. £189.99.

All for £149.99

### CARTRIDGES

GHOSTBUSTERS.....£32.99  
ESWAT.....£32.99  
STRIDER.....£37.99  
FATMAN.....£37.99  
SHADOW DANCER.....£37.99

Available now our newsletters for either Megadrive or Gameboy. For your copy send a stamped addressed envelope stating version required. We also do Gameboy Super Famicom and Sega Game Gear

**GAMEBOY** in excellent condition with 3 games Tetris, Mickey Mouse, Ghostbusters, two + two player lead still boxed. Unwanted present only £65.00. Phone 021-350-9203 Ask for Rob.

**VORTEX** AT-Once for the Amiga, with MS-Dos. Hardly used, unwanted present. £175 o.n.o. Phone Barry on Portsmouth (0705) 872213.





### PROGRAMMERS AND GRAPHIC ARTISTS

Zeppelin Games Limited is currently launching a recruitment campaign for freelance programmers and graphic artists. Expansion of the company has meant that there is a large number of both Budget and Full Price projects ready for immediate development.

To those people whose work comes up to our exacting standards, we guarantee to offer you the best payment terms, conditions and back-up of any software house.

If we have not heard from you in the past two months, please send a brief letter and demo on any computer format to:-

Gareth Briggs  
Head of Development  
Zeppelin Games Limited  
PO Box 17  
Houghton-le-Spring  
Durham  
DH4 6JP

*One of the U.K.'s leading development teams need programmers proficient in Z80, 6502, 8086 and 68000 to work on projects for ST/Amiga/PC and console machines.*

*You will be working on a 386 PC, using SNASM alongside our in-house development tools.*

*Starting salary will be 10K plus*

*We also require a freelance graphic artist*

*Contact Mark or Steve at:*

**ELDRITCH THE CAT LTD**

174 Tower Street

Century Building

Brunswick Business Park

Liverpool, L3 4BJ

Telephone: 051-709 2733

Open 7 days a week



# THIS COULD BE THE MOST IMPORTANT AD. YOU'LL EVER SEE

## BECAUSE WE REQUIRE PROGRAMMERS, ARTISTS AND ANIMATORS TO WORK ON SOME AMAZING PRODUCTS

Following a year that has proven Gremlin to be in the forefront of games development and publishing, we are now looking to expand our in house development team across all machine formats. So if you are conversant with Z80, 6502, 68000, 8086 or have worked on the Nintendo Game Entertainment System, Gameboy or any other consoles, we would like to consider you to work on some of the most exciting products being produced this year.

If you have the right experience it could be you working on one of our major CD or console products. If your ability is unproven we are always happy to evaluate any samples you may send.

**Please telephone or write, in confidence, to James North-Hearn.**

**0742 753423**



**Gremlin Graphics**  
Carver House, 2-4 Carver Street,  
Sheffield. S1 4FS



# FILLING THE SCREEN WITH MAGIC

---

From Original Design to Coin-op Conversions, Games Testing and Mastering, Console Software Development and Advanced Music and Graphics Generation our aim is to continue as the best in the business. To achieve this aim and continue our expansion programme we are looking for top quality personnel in the following areas:-

---

## CONSOLE PROGRAMMERS

As proven developers of Sega and other leading consoles, we at Tiertex have a specific requirement for experienced Z80 and 68000 programmers. Our staff use State of the Art development equipment to produce the best products available.

Successful candidates will experience the challenge of working on the latest consoles and being part of one of our most important commercial initiatives.



## GRAPHIC ARTISTS

Multi-format experience, and the ability to be truly creative within deadline constraints are the qualities required for these posts. A salary commensurate with our aim of attracting the best will be offered to the right candidates.

---

If you are interested in any of the above posts and feel you have the right credentials then please write, enclosing full C.V. to John Prince/Donald Campbell.

**TIERTEX LTD, 53 Palatine Road, Didsbury, Manchester, M20 9LJ**

**Telephone: 061 446 2251.**

---



Tim Smith's

Write to 30 Monmouth Street, Bath BA1 2BW  
(Art for Art's sake)

# CENTREFOLD

## OPENING TIME



Another week, another dose of DOS. The nights are getting shorter, or is that the days getting longer? I never can tell and thoughts are turning away from sitting in doors playing fun games with Louts 1-2-3 (*that's Lotus isn't it?* - Sub). The Spring is calling to even the most hardened computer user, juices are rising and maybe it's time to start thinking about how to make the most of the Summer.

My idea is to form a ComputerWorld theme park along the lines of Alton Towers. But, instead of stupid rides which leave your stomach plastered all over the floor and your lunch all over your 'I've Seen Windows 3 and It Worked' souvenir T-shirt, we could have interactive fun.

I have a dream! I see high-speed database file conversions between people who have never even been introduced. I see terribly dangerous activities such as not backing-up data on a massive scale. I see arcades full of machines into which you are supposed to spill coffee and into which you, or a paid employee, gets to breath smoke from Capstan Full Strength cigarettes.

In short I see an entire, enclosed area where people get to do all the things which they have always wanted to do to computers.

Imagine 15 floor towers from the top of which you get to throw PCs, PCWs and Macs. Think for a minute what it would be like to have row upon row of Aunt Sally hackers. Lines of spotty little pirates at whom you get to throw balls of mag tape until you knock them into vats of melted disks.

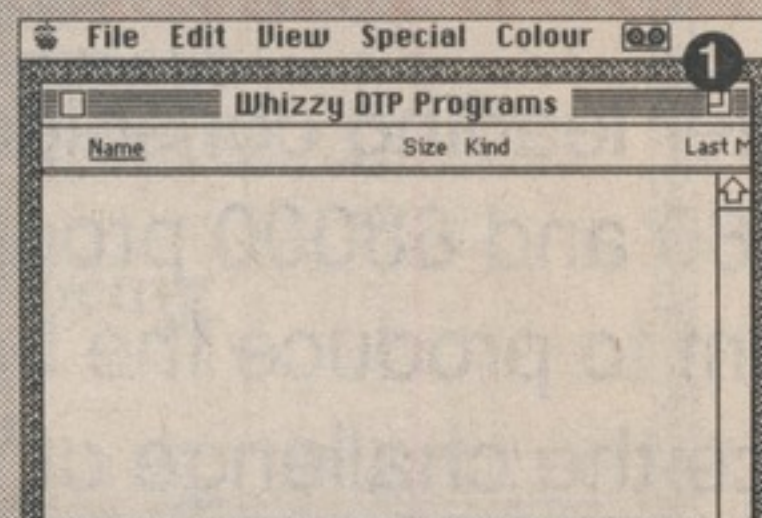
Dwell on the possibility of halls bursting at the seams with NeXT colour-stations and spray cans full of dayglo paint to wipe that smug matt-blackness from their CPUs. Heaven. And once you've got it all out of your system you can go back to your own machine and lavish tender loving care upon it.

I think it would work. Do you?

## UPGRADE CLEVER CLASS WITH LISA SCUZZY

This week we show you how to turn your computer, whatever it might be, into a fully functioning Apple Macintosh. According to our Lisa, converting your machine, be it a CPC or a 486 PC, is a piece of cake. All you need to know is a little bit about programming.

Essential pieces of equipment for this task are as follows: Mac-O-Make compiler/assembler/disassembler from KnoBsoft (£223.99). A piece of paper, a pencil, Cedric LeMay's authoritative programming tome *How To Turn Your Horrid Old Computer into a Mac Really Easily, No Probs* (Centrefold Press, £22.95, 1212pp) and a deal of patience.



1) First get some idea of what the Mac desktop looks like. You can do this by phoning the following toll free number 0101 803 737 333 838 3939 which is the Independent Global Mac User's club. You will need to have a modem and the ability to download files in MacDownloadD format at 1200 baud.

2 & 2a) Second have a quick peak at the rather simple code which goes into

```
000000 0000 0000 0000 0000
000008 0000 0227 27A6 0000
000010 6736 3FFF FFFF 0000
000018 FFFF FFFF FFFF FFFF
000020 F0F0 F0F0 4A5A 4A5A
000028 7A8A AA77 6AFA ACAS
000030 ACA4 A3AC A65A 8A89
000038 ACA4 9A98 A7A6 A6AF
000040 A65A 5A4A EAAE AEA4
000048 5555 A5A5 A5A5 A5A5
000050 A5A5 A5A5 A5A5 A5A5
000058 A5A5 A5A5 A5A5 A5A5
000060 A5A5 A5A5 A5A5 A5A5
```

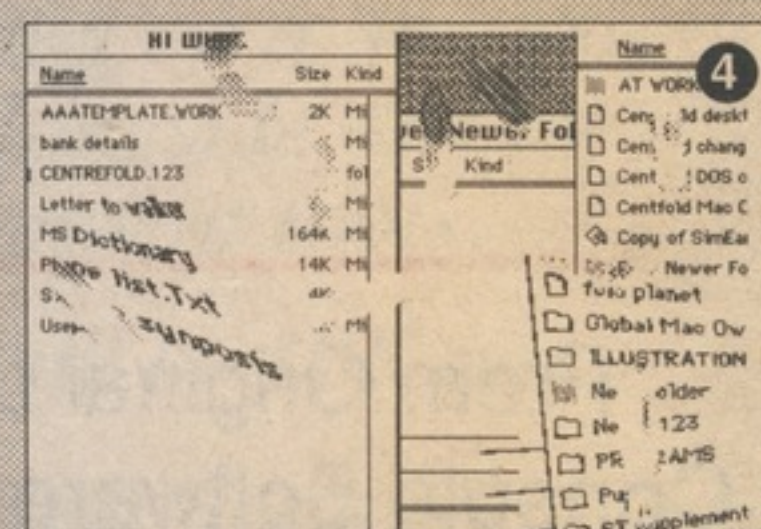
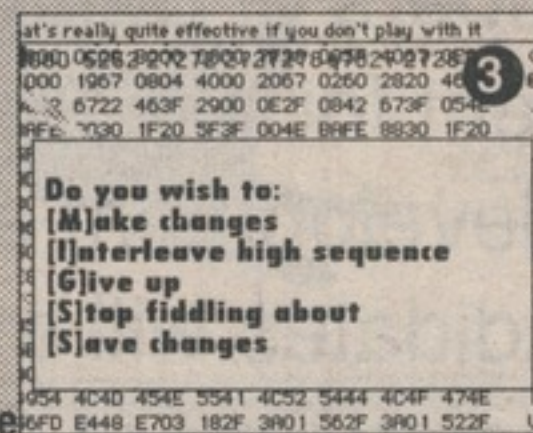
constructing the desktop. You will need to compare this with the code which makes up a common operating system such as MS-DOS

```
1 FOR dos = 1 to 1000000000000000
10 WHILE USER = -1
20 PRINT "Re-try, Fail, Abort"
30 WEND
40 WHILE USER_HAPPY = 1
50 PRINT "Invalid"
60 WEND
```

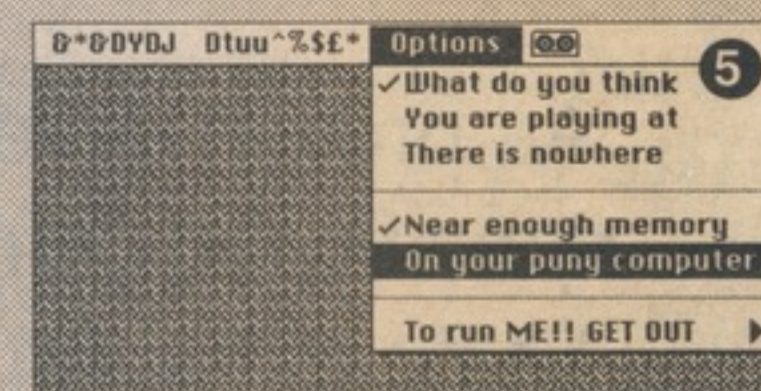
3) Make the necessary changes using Mac-O-Make. This really

could not be simpler. All you have to do is copy the Mac desktop from your downloaded file and paste it into your own operating system's high memory low user interface coded system file.

4) Once you have everything pasted in. You will need to check the details in How



To Turn Your Horrid Old Computer into a Mac Really Easily, No Probs, chapter 121, section 3. This deals with altering the Potential Stack Register so that it reads concurrently with the Inverted Keyside Stack. This might be a bit fiddly but keep trying.



5) Finally reboot your own computer and you will see the change. From now on you will be able to run all Macintosh and NeXT programs on your machine without any modification. Be sure to work either with a back-up of your machine or with some else's entirely. If you encounter any problems it's probably because you haven't followed the instructions properly.

## A CENTREFOLD EXCLUSIVE ANCIENT GREEKS USED COMPUTERS FOR MATHS

By our archaeological correspondent Idaho Brown

In a shock revelation made at a press conference last Tuesday lunchtime, head of the London Greek Hardware Association, Mr Theakolopilik Duranicabrosos, claimed that evidence had been discovered of ancient Greek computing.

Mr Duranicabrosos said that:

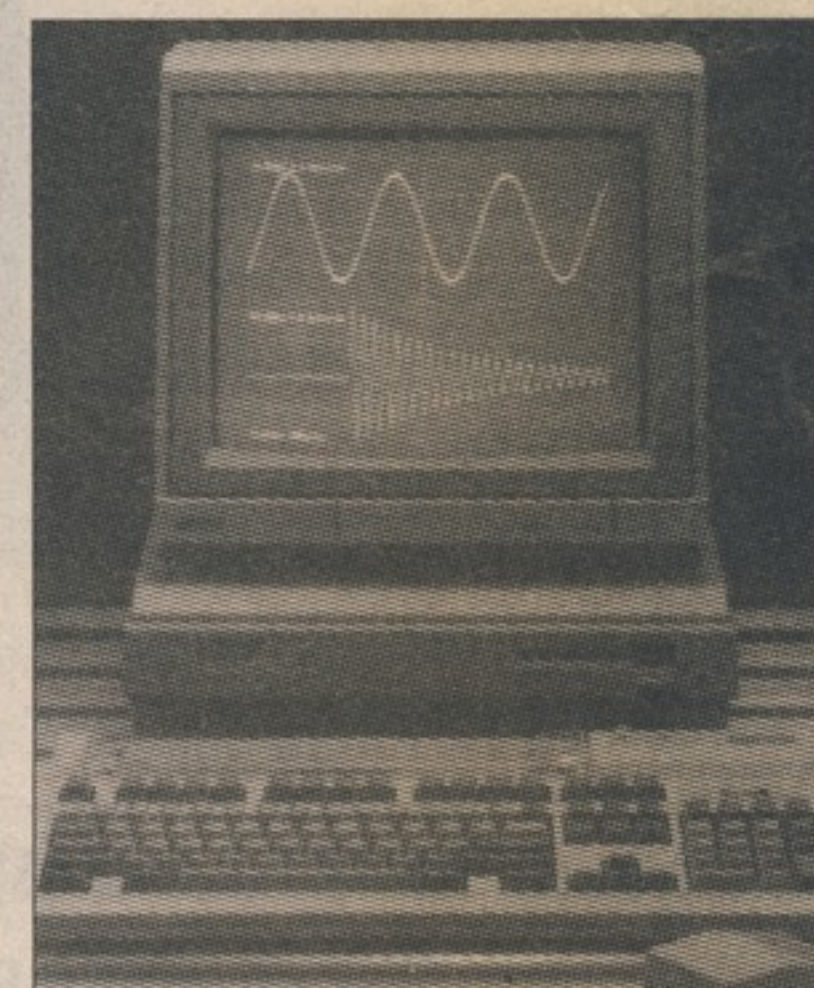
- Archimedes was named after his computer and not the other way around.
- Eureka was the name of the first Operating System
- Spartans used hard drives in calculating battle strategy

Further claims were made as to copyright on silicon-based systems, keyboards, the Elgin marbles, and BASIC.

Commenting on the startling claims Mr Duranicabrosos said: "It is obvious

from recent digs that the ancient Greeks made good use of digital technology. Having invented electricity in 486BC, the next logical step for our forebearers was to create television and the computer. Firm evidence has arisen leading us to believe that several on-line systems were available in the Athens metropolitan area. The skills were lost following a massive Ouso drinking spree attended by Aristotle, Archimedes, Plato, Pythagoras, Euclid and Homer. We our presently consulting our lawyers who will be in contact with Intel, Motorola, IBM, Apple, Amstrad, Microsoft, and Sam Computers. We are very confident in our case and have right on our side".

Sources have suggested that Mr Duranicabrosos is in fact the same man who lead the Free Bolivian Software League of Croydon in its bid to sue Tandon. This case focused on the fact



•The Archimedes. Named after the ancient Greek or was it the other way around?

that Tandon is in fact an anagram of Anndton, an obscure Bolivian rebel leader and machine code addict. That case continues.

We spoke to eminent German bone-digger Herr Howard Von Tut who commented: "It's you again, me ringing in the nacht middle yes? I your number have traced so watch your back regions! Now \*!!!\* off out of it!"



## WIN A PC COMPETITION



**INTRASET LTD**  
Tel: 025 72 76800 (Main office & 24 hr order line)  
Helpdesk 0490 3284 (weekdays 3-4pm)  
Fax your order on 025 72 74753



All prices include P&P and VAT. Overseas orders please add £5.00

### CASHMASTER

#### HOME AND BUSINESS ACCOUNTS

- Master your own finances. CASHMASTER is the easiest to use, most versatile accounts program yet written.
  - CASHMASTER is suitable for both small business accounts or home finance use.
- We wrote CASHMASTER for our own use out of sheer frustration with the other so called easy to use packages. CASHMASTER allows you to input entries in one easy operation and yet allows you to extract the absolute maximum of information in an impressive array of statements and reports: just look at its range of features:
- Easy natural data entry - just like a handwritten ledger.
  - Full VAT analysis or omit VAT altogether if you wish.
  - Any amount of ledgers at one time.
  - No set time periods, span any time period - no one year limit.
  - Reports can be produced over any time span (1 day to 100 years)
  - Up to 100 user definable Class and 20 Accounts Codes.
  - Detailed statements by selected Classes or Accounts.
  - Profit & Loss Statement.
  - Tagging of entries for report selectivity.
  - Entries can be inclusive or exclusive or zero VAT.
  - Automatic repeat of entries (standing orders etc.) yearly, half yearly, quarterly, monthly, fortnightly or weekly.
  - Insert entries anywhere in ledger, CASHMASTER automatically sorts into date order.
  - Search and find option on any entry anywhere within ledger.
  - Reports can be output to screen, printer or disk file.
  - Reference field for every entry (Invoice no. cheque no. etc.).
  - Split and merge ledgers at any time.
  - All functions available from main programme screen, Class and Accounts codes visible at all times.
  - FREE pop up running total calculator called up with one key press.
- CASHMASTER IS THE MOST USER FRIENDLY, POWERFUL AND VERSATILE ACCOUNTS PACKAGE YET - YOU WON'T BE DISAPPOINTED.

And now available with...

#### CASHMASTER INVOICING & STOCK CONTROL

- Full customer data file - easy to find account records.
  - Full stock data file, price lists, re-order lists.
  - Full invoicing with user defined messages.
  - Full invoice editing, invoice to & deliver to fields.
  - Pre-paid, account or credit note, full VAT facility.
  - Settlement, no return & line discounts.
- Stand alone invoicing/stock control or integrates fully with CASHMASTER for a FULLY FEATURED ACCOUNTS/INVOICING PACKAGE costing less than a quarter the price of its rivals.

CASHMASTER £39.95  
CASHMASTER INVOICING £39.95  
BOTH PROGRAMMES TOGETHER £69.95

### ££££ PROFIT FROM YOUR MICRO ££££

#### RECESSION? WHAT RECESSION?

- Make your Micro earn!
- Whatever make of micro you have you can use it to make a good income even if you only have a couple of hours spare each week!
- This is not PIE IN THE SKY, MAKE A MILLION BEFORE BREAKFAST nonsense but a true report of exactly the sort of steps that we ourselves took at INTRASET.
- We have put together a package of easy, sensible business ideas which can easily be used by anyone with any Micro.
- NO COMPUTER EXPERTISE REQUIRED.
- Earn £££'s from home doing what you enjoy doing - using your computer!
- You probably already have everything you need to start earning.
- Hundreds of potential customers in your area who will GLADLY pay for your services. We tell you how to find them!
- Part time or start your own full time business. Ideal for housewives/husbands, unemployed etc. Very little capital outlay on projects.
- Full step by step sixty page book PROFIT FROM YOUR MICRO comes complete for just...

£14.95 inclusive

### SPECIAL DISK DEAL

DISK	£	£	£
	10	50	100
3" CF2 (AMSOFT)	19.00	92.50	180.00
3 1/2 DSDD	6.90	32.00	60.00
5 1/4 DSDD	3.90	19.00	37.00

GENUINE HIGH QUALITY DISKS

### POOLSMATER

#### The Football Pools Predictor

- "A LICENCE TO PRINT MONEY" - Mr F C Hammond of Essex  
"WE HAVE WON MANY THOUSANDS" - Mr P E Roberts of Dorset
- Just a couple of the many unsolicited testimonials about this truly amazing Football Pools Predictor Programme which has consistently astounded us with its accuracy. Check out its features:
  - Predicts homes, aways and draws.
  - No fiddly typing in of team names: unique indexing system for quick entry of fixtures and results just type in the results each week from your usual newspaper and the programme updates itself.
  - Uses scientific formula which is the result of many years study of the football pools to give a strike rate which is consistently higher than the laws of average.
  - Also has a SEQUENCE PREDICTOR option in addition to form Predictions which analyses coupon number sequences. This option has astounded us in the past and continues to do so.
  - Can be used for league and cup matches. Updates season after season. No need to buy a new copy every season.
  - Send for POOLSMATER today and increase your chances of that JACKPOT. Comes complete with manual and informative Pools Guide.

DISKS AND TAPES £19.95

### ★ ★ SPECIAL OFFER ★ ★

SPECIAL COMPENDIUM DISKS/TAPES  
POOLSMATER/PERM-MASTER/COURSEMASTER  
& SPOT-THE-BALL. ANY 2 PROGRAMMES £37.95.  
ANY THREE PROGRAMMES £49.95. ALL FOUR  
PROGRAMMES £59.95. BUY ANY THREE DISKS  
(OR TWO INCL. COMPENDIUM) AND RECEIVE PROFIT  
FROM YOUR MICRO FREE

### THE GRAPHOLOGIST

#### HANDWRITING ANALYSIS PROGRAMME

##### "UNCANNILY ACCURATE" - 8000 PLUS MAGAZINE

- Analyse YOUR handwriting, or your partners, friends etc. What are they REALLY like! Your handwriting always reveals your true nature, state of health etc.
  - This programme is a must for anyone interested in handwriting analysis, both expert and beginner alike.
  - The programme will provide an analysis of a subject's handwriting ranging from a simple signature analysis to a full 15 page complete character report. Ideal for prospective employers, experienced graphologists or anyone interested in this fascinating art.
  - All you need is a sample of the subjects handwriting and follow the simple on screen instructions. Upon completion you are left with an in depth report detailing all aspects of your subjects character from career ambition, state of health through to sexual preferences and megalomania!
  - You may even edit this report using your word processor for representation to your subject/client.
- THE GRAPHOLOGIST is a must for serious business use or simply have loads of fun entertaining your friends whilst learning the finer aspects of this fascinating subject.
- COMPLETE WITH MANUAL OF GRAPHOLOGY

Price £49.95 inc. VAT and P&P

All programmes available for IBM/PC & compatibles, all Amstrad PC's, Amstrad PCW's, Atari, Amiga, CPC 6128 (unless otherwise stated). Perm-Master also available for Commodore 128 disk. Coursemaster and Poolsmater also available for all Amstrad CPC's, all Spectrums and C64 & 128

### COMPETITION RULES

Every purchase made qualifies you to enter our competition draw. The total value of your purchases will determine the prize won.

There will be one 1st prize only per draw.  
Spend up to £20.00 - 1st prize = a Star LC printer.  
Spend up to £40.00 - 1st prize = Amstrad PC1512 SDMM  
Spend over £40.00 - 1st prize = Amstrad PC1640 SD colour.  
5 runners up will each win full set of Intraset software as above. Intraset's decision final on all matters.  
Send SAE for list of winners.  
Draw dates 28/9/91 and 28/2/91.

### COURSEMASTER

#### THE COMPUTER HORSE RACING TIPSTER PROGRAMME

- BEAT THE BOOKIE FOR A CHANGE!!
- RATES ANY RACE using racecard in any daily paper or racing paper - BOTH FLAT AND JUMPS.
- Gives clear forecast of best selection PLUS second and third for Tricasts etc. and even recommends type of bet.
- Works out your WINNINGS on most popular types of bet ie. SINGLES, DOUBLES, PATENT, YANKEE, CANADIAN, etc.
- MAINTAINS A BANK ACCOUNT - Bet like a PROFESSIONAL!
- PLUS the amazing COURSEMASTER SYSTEM BET. This superb easy to use betting system regularly provides our customers with MAJOR WINS for small stakes - try it and amaze yourself. Will even PRINT OUT YOUR BETTING SLIP for you if you have a printer!
- COMPLETE WITH 20 PAGE BETTING GUIDE AND MANUAL

DISCS AND TAPES £19.95

### PERM-MASTER

If you enjoy doing the Pools and regularly use perms as we at INTRASET LTD. recommend then checking your coupon can be a nightmare. Have you won or haven't you? Perm-Master ends the agony by checking your perm for you. Simply tell it which of your coupon numbers are draws and it will do the rest, telling you how many winning lines you have. Perm-Master comes complete with several of the top perms already built in, but if your favourite perm is not there then simply create your own using the unique perm editor.

- Fast and simple to use
- Unique PERM EDITOR
- Create your own perm using the inbuilt perm calculator, test your own theories etc.
- For most block and single line perms

Price £19.95

### SPOT-THE-BALL

For all SPOT-THE-BALL fans this programme is a must, no more tiresome counting of 'x's or messy rubber stamps. Use your computer to do your SPOT-THE-BALL coupon. Just tell your computer where you think the ball is using the screen template supplied.

Will print out up to 540 micro-fine crosses in your chosen shape, or simply tell it to choose at random. Learns as it goes - tell it where the ball is every week and build up a database of results to use in SPOT-THE-BALL's sequence predictor option.

Works with any Epson compatible dot matrix printer or build your own printer driver using the on screen option.

- LET SPOT-THE-BALL fill in YOUR COUPON this week

SPOT-THE-BALL £17.95

### P.C. PATIENCE

- Four addictive P.C. card games to test your skill and luck.
- P.C. PAIRS, THE INTRASET CASINO, P.C. GOLF & CHESS PATIENCE
- Ideal relaxation whilst the boss is not looking, but don't blame us if you get totally addicted, (But we know you will!)

P.C. PATIENCE £14.95 (IBM/pc compats only with 256K + CGA monitor required)

Spend over £100 and claim this item free!!!

### INTEREST FREE CREDIT TERMS

Spend over £80 and spread the cost at no extra charge! (Cheque purchases only). Simply divide your order by 4 and send us four cheques each with your name and address and cheque guarantee card number...Date the first cheque with today's date and post-date each of the other cheques by one month i.e. 1/5/91, 1/6/91 etc. We will then hold each cheque until it is due. Sorry not available on hardware items

HOW TO ORDER: CHEQUES, P.O.'S TO: INTRASET LTD (DEPT. NCE)  
FREEPOST 10 WOODSIDE AVENUE, CLAYTON-LE-WOODS, CHORLEY, LANCs. PR6 7BR  
OR PHONE/FAX AS ABOVE FOR LIGHTNING FAST SERVICE.  
WE ACCEPT ALL MAJOR CREDIT/CHARGE CARDS.  
SEND SAE FOR FREE SOFTWARE CATALOGUE



# EXPRESS ON-LINE

This week featuring User Groups.

## NEW ON-LINE

**GUG (UK)** – GEOS User Group for C64/128. Also non-GEOS PD library. Send disk and return postage for GEOS, SAE for non-GEOS to GUG (UK), 110 Deansway, Woodloes Park, Warwick CV34 5DQ

**MACH MAC PD** – The best there is. Explosively good public domain for the macintosh. £1 for demo disk and catalogue of over 900 disks. Write to MMPD, Highover, Udimore, Nr Rye, East Sussex.

**PAS PD** for the ST. Send 75p for the latest details and disk catalogue (refundable). Write to PAS, 97 Holland Street, Ebbw Vale, Gwent NP3 6HY.

**PCW PD CLUB** – It's new, it's fresh. Swap PD for PD, up to three disks full at a time. Bi-monthly newsletter soon. All PCW owners welcome. Write to 3 Mooredale Ave, Chorley Wood, Birmingham, B37 5SD.

**PERFORMANCE PD** – PD for the ST. 30 Prospect Road, Oulton Broad, Lowestoft, Suffolk, NR32 3PT. Tel: 0502 513923. Disk list £1. Cheques/POs payable to Performance PD.

**POWER PD** – 90p per disk. Wide range. Send 90p for current catalogue on 3.5 inch disk to Chris Jackman, 3 Albion Terrace, Lexham Road, Litcham, Kings Lynn, Norfolk, PE32 2QQ.

**PAGESTREAM USERS GROUP** – all Atari/Amiga owners of Pagestream send large SAE to PUG, 70 Offerton Lane, Stockport, SK2 5BS. Include all your tips please.

**R&G PD** – For cheap Amiga PD send SAE for list to R&G PD, 23 Melmount Gardens, Strabane, County Tyrone, Northern Ireland or send a disk for list and game. Also willing to swap.

**RICHARDS PD LIBRARY** – Support for Amiga PD. A massive range of demos, utilities, music, AMOS, Slideshows etc. Most disks £1.50. Some £2.50. All disks dispatched as soon as we receive the order.. 74 Cross Deep, Twickenham, Middx, TW1 4RB.

**SAINT JOHN'S SCHOOL LIBRARY PDL** – Atari/ST PD software for sale or swap. Write to St John's School Library PDL, c/o Mark Ash, 54 Beaconsfield Road, Sittingbourne, Kent. ME10 3BB or telephone 0795 425653 after 4pm.

**SOFTWARE EXCHANGE SERVICE** – for info send SAE to 13 Bourneville Lane, Birmingham, B30 2JY. New telephone number: 021 459 7576. Buy/swap/sell.

**SOUTH 16 AMIGA USER GROUP** – the UK's number one Amiga user group. For more information send SAE to South 16, PO box 16, Southampton, SO9 7AU. Now!

**SPANDEFANG SOFTWARE** – 68000 AC Coders magazine. Send £2 for sample to 4 Cambridge Terrace, Harrogate, North Yorkshire, HG1 1PN. Atari, ST, IBM PC. 3.5 inch disk included in price.

**STEN** – the ST enthusiasts newsletter issue three now ready. Send a disk and SAE for your copy now. Postal Trivia League starting. Interested? Write to 14 School Road, Morningside, Newmains.

**TYPECAST PDL** – Atari ST/STE PD. Solely for DTP, WP, Art, clip art, no games. Send disk and SAE for disk catalogue to 31 Hartfield Crescent, West Wickham, Kent.

**WHITE HEAD PDL** – Atari ST PD from £1.40 per disk. Please send two second class stamps for the latest list to Hakan Akbas, White Head PDL, 15 Cavendish Mansions, Clapton Square, London E5 8HR.

**ABC AMIGA BEGINNERS' CLUB** – PD library review. More info in beginners' pack. Send £1.50 to Ian, 110 Whitehill Park, Limavady, Co Londonderry, Northern Ireland, BT49 0QG. Tel: 0504 765174

**ACORN 8-BIT PD SOFTWARE** – Write to Alan Blundell, BBC PD, 18 Carlton Close, Blackrod, Bolton, BL6 5DL. Send SAE for £1.50 for sampler disk

**ACORN ARCHIMEDES.RISC USER** 117 Hatfield Road, St Albans, Hertfordshire

**ACORN ARCHIMEDES** Archive, 18 Mile End Road, Norwich NR4 7Q

**AMATEUR RADIO (CBM)** – Simon Lewis GM4PLM Commodore Radio Users Group, 69 Irvine Drive, North Clippens, Linwood, Paisley

**AMIDOS AMIGA PD SWAP CLUB** – send blank disk with an SAE or £1 for a starter catalogue and details on how to join. A prompt reply given to all members and new applicants.

**AMIGA AND PC PD CLUB** – Contact Prestel MBX 011115474 or send stamp to 48 King William Drive, Cheltenham, Glos, GL53 7RP

**AMIGA CHEAT DISK FANZINE** – JS Smith, 45 Maplecroft Crescent, Sheffield S9 1DN.

**AMIGA DISK MAG** – with a new style with over 100 pages of news, reviews, art, music, and PD on two disks. Send £3 to Paul Harthen, 43 Boyds Walk, Dukinfield, Cheshire, SK16 4AX

**AMIGA HELP CENTRE** – A group to help novices. For CLI help disk and registration send £10 to Simdev, 29 Avon Square, Hemel Hempstead, Herts.

**AMIGA HELPLINE SERVICES** – Free club for young and old. Send SAE to G Keenan, 21 Skirsa Place, Glasgow, G23 3EE.

**AMIGA LA FANZINE** – Only £2 including membership. L Stacey, 3 Norfolk Close, Bewbush, Crawley, West Sussex, RH11 8GJ

**AMIGA PD** – over 600 disks. Only 75p each. For catalogue send SAE and 50p to Mark Knight, 20 Mayfield Crescent, Patcham, Brighton, Sussex, BN1 8HQ or tel 0273 557113. Special bulk prices on orders over 50 disks

**AMIGA PD** – Software for sale. If you live in South Wales then look no further. Disks only £1.50 inc P&P. Write now to SWAPD, 38 Syon Park Close, St Mellons, Cardiff. All the latest in demo, music, utils etc

**AMIGA PUBLIC DOMAIN** – only 85p per disk. Send SAE for details to Paul Brown, 14 Elmfield Road, Rossington, Doncaster, DN11 0BP or call 0302 865148 after 7pm.

**AMIGA PUBLIC DOMAIN** – JJ Meachen, 59 Lee Road, Harwich, Essex, CO12 3SB.

**AMIGA PUBLIC DOMAIN USER GROUP** – Ashley Tarver, 5 Saunders House, Binswood Avenue, Lemmington Spa, Works, CV32 5RZ

**AMIGA SHAREWARE** – Send SAE for lists to 4 Sedgewick Close, Atherton, M29 9EF

**THE AMIGA TEAM** – A group to help novices. Help given in programming – Assembly, BASIC, C, Logo, Pascal and CLI. For registration and introduction pack send £10 to 11 Beech Grove, Northallerton, North Yorks, DL6 1JY

**AMOS/STOS PD LIBRARY** – send SAE for a catalogue to 25 Park Road, Wigan, WN6 7AA. Telephone 0942 495261 before 6pm.

**AMSTRAD BUSINESS USERS** – Amstrad Professional User Club, enterprise House PO BOX 10, Roper St, Pallion Ind Estate, Sunderland SR4 6SN. Tel 091-510 8787

**AMSTRAD CPC USERS** – Tony Baker, United Amstrad User Gp, 26 Uplands Crescent, Fareham, Hants PO16 7JY. Tel 0329 234 291

**AMSTRAD CPC HOME USERS** – Steve Williams, WACCI, 9 South Close, Twickenham TW2 5JE. Tel 081-898 1090

**AMSTRAD LOCAL GROUPS** – Amstrad Groups Federation, 4 Sutton Road, Gorton, Manchester

**AMSTRAD PC SOFTWARE** – Colin Smith, Colbar, 10 Penwood cl, Westbury, Wilts BA13

**AMSTRAD PCW** – PD software: Bob Ellis Tel 0432 761860 Queries: David Axford Tel 0428 56438

**AMSTRAD PCW** – Bob Ellis "Rowan" 100 St Peters Close, Moreton-on-Lugg, Hereford HR4 8DW. 0432 761 860

**AMSTRAD 1512/1640/PPC** – PC Independent User Group, The Computer Advice Centre 87 High Street, Tonbridge, Kent. Phone 0732 771 512

**AMSTRAD BUSINESS USERS** – Amstrad Professional User Club, Enterprise House PO BOX 10, Roper Street, Pallion Industrial Estate, Sunderland SR4 6SN. Telephone 091-510 8787

**APPLE II USERS** – tel 051 9284142.

**APPLE MACINTOSH** – John Lewis, Macintosh user group, Macintosh House, 11 South Parade, Summertown, Oxford OX2 7JL

**APPLE SYSTEMS** – Irene Flaxman, Apple 2000, PO Box 3, Liverpool L21 8PY.

**ARABIC COMPUTING** – Rich Lackey, Arabix, 9 Bellview road, Worthing, West Sussex BN13 1EY

**ARCHIE PD** – for 2.4Mb sampler pack send three E Format disks, SAE and £1 to Archie PD, Dept NCE, Highover, Udimore, Near RYE, East Sussex

**ASHTON TATE SOFTWARE** – Silvia Robinson, Baseline, Ashton-Tate, 1 Bath Road, Maidenhead, Berts 0628 33123. Prestel page 43221

**ASTAC** – a new Atari ST and console mag. For details send an SAE to Astac, 383A Drayton High Road, Helleston, Norwich, Norfolk, NR6 5BG.

**ASTMATIC AARDVARK PD FACTORY** – the best for PC, ST and Amiga. Send £1 for a demo disk to Highover, Udimore, Nr Rye, East Sussex, TN31 6BG.

**ATARI ALL MACHINES** – Colin Hunt, BaPAUG, Wimborne Road, Oakdale, Dorset BH15 3EF

**ATARI AND ST PC EMULATOR SUPPORT CLUB** – SAE to 153 Parrock Street, Gravesend, Kent, DA121ER

**ATARI CONNECTION PD** – High quality disks only. All our PD only 99p per disk. Wide selection – utils, demos, games etc. For disk catalogue send disk to ACPDL, 72 Lancelot Avenue, Strood, Kent

**ATARI PORTFOLIO** – D Gilpin, Atari Portfolio User Group, 84 Cambridge Avenue, Gidea Park, Romford RM2 6QU. 0708 730764

**ATARI ST DIY HDISK BUILDERS CLUB** – information on how to build from scratch an HDisk system for your ST. Help given on what you'll need and how to connect it all up. Call 0495 272092

**ATARI ST OWNERS** – public domain from £1.50 per disk. Write to 22 Merryfields Avenue, Hockley, Essex, SS5 5AL

**ATARI ST SOFTWARE** – write to 16/32 PD library 35 Northcote Road, Strood, Kent ME2 2DH

**ATARI ST** – Paul Glover, The ST Club, 9 Sutton Place, 49 Stoney Street, Nottingham NG1 1LX. 0602 410241

**ATARI ST/STE HELPLINE** – We can scan, digitalise and provide loads of clip art. SAE to Nist 53, Lenaghan Park, Belfast, BT8 4JB

**ATARI ST USERS** – ELECTRON. 2 disks plus 40 page mag. Reviews, articles, games, advice, electronics, software library (PD 50p each) and Chess. £3.50 inc membership (refundable). Andrew Betts, The Mount, Wood Lane, Gallowstree Common, Reading, Berks, RG4 9BG

**ATARI ST USERS ASSOCIATION** – provides support for all Atari ST/E users. Help and advice given. Quarterly club magazine and disk. Also exclusive PD library for members. For further information write to ASTUA, 18 Poplar Close, Biggleswade, Beds, SG18 0EW

**BBC MICRO** – BEEBUG, 117 Hatfield Road, St Albans, Herts AL1 4JS. 0727 40303

**BASIC PROGRAMMERS' GUIDE** – for all BASIC programmers. Phone Andy on 081-648 4326.

**BATPUG** – Turbo Pascal user group also open to other PC Pascal programmers. Costs £10 per year. Write to 12 Clegg Avenue, Cleveley's, Blackpool, FYS 9BJ. Send an SAE for sample.

**BURMAN'S PD** – Amiga PD for 40p. For a catalogue on disk, a few demos and a game send a stamp and disk to Burman's PD, 41 Pinner Park Gardens, Harrow, Middlesex, MA2 6LQ

**BYTER PD** – For list and latest titles of Atari ST and Amiga PD write to Byter PD, PO Box 182, London, SE6 1BZ

**C64 PD CLUB** – E Masaba, 84 Garmoye Rd, Liverpool L15 3JH

**C64 PUBLIC DOMAIN** – Phoenix, 64 Plumberton, Basildon, Essex

**C64 SOFTWARE LIBRARY** – Free game when you join. For details send SAE to 12 Dagmar Road, Windsor, Berks, SL4 1JL.

**C USERS GROUP** – Francis Glassborow, 64 Southfield Road, Oxfoed OX4 1PA. For everyone interested in the C and C++ programming languages. Publishes a bi-monthly newsletter.

**CAMBRIDGE Z88** – Roy Woodward, Z88 Owners' Club, 68 Wellington St, Long Eaton, Nottingham

**CD ROM** – UK CD-ROM User Group, High Wings, Sale, Treforys, Abertawe 0792 844 370

**CHESHIRE 16-BIT USERS CLUB** – Amiga, ST, PC, Arc at Radley Common community centre, off Poplars Avenue, Orford, Warrington, Friday nights. All welcome. £1 admission.

**CHESS COMPUTER PROGRAMMERS** and interested players send an SAE to Steve Roe, 25 Nene Walk, Worksop, Notts or ring BBS 0909 479080

**CHOICE** – on-line help. Tel 0308 23224

**CHESHIRE NIMBUS USER GROUP** – Geoff Nelder, Queens Park High School, Handbridge, Chester

**CHURCH ADMINISTRATION** – Rev Stoker Wilson, Church Computer User Group, St John's Vicarage, Greenside, Ryton, Tyne & Wear NE40 4AA. 091-413 8281

**CID** (Computers and Integration for the Disabled) is a registered charity. Write to Gordon, Chelsea Road, Inverurie, Aberdeenshire, ABS 9QZ or tel 0467 24202

**CLERGY/MEDICAL EDUCATION** – Mr T Jones, FREE-ED Shareware/PD 85 Stoke road, Taunton, Somerset TA1 3EL. Tel 0823 321 481

**CLUB AMIGA** – Discounts, 24 hour help line. For more info send an SAE to Club Amiga, 5 Bowes Lea, Shiny Row, Tyne and Wear, DH4 4PP

**CMS PD LIBRARY** – Sam Coupé PD software for only £1.50 a disk. Send an SAE and a blank disk (or 70p) for a disk catalogue to CMS PDL, Dept NCE, 70 Donald Drive, Chadwell Heath Romford, Essex, RM6 5DU.

**COBOL LANGUAGE** – Allen Reavie 22 Mourneview St, Portadown, Northern Ireland. BT62 3AW

**COLECO ADAM** – Keith Mamer, UKAS 33 Homer Road, Croydon CXRO 7SB

**COMMODORE ALL MICROS** – PO Box 1309, London, N3 2UT. Tel 081-346 0050 after 6pm

**COMMODORE 64 CLUB** has been on the go for the last five months and new members are welcome. For more details send an SAE to The C64 Club, 20 Finlow Place, Dundee, Scotland

**COMMODORE AMIGA** – UK Amiga Users Group. Contact 144 Charles Street, Leicester LE2 0OD. Telephone 0533 510066 voice; 0533 517615

**COMMUNITY COMPUTING** – Community Computing Network 2nd Floor, 35 Pink Lane, Newcastle, NE1 5DW. Tel 091-261 0317

**COMPUCORP** – Compucorp University users group c/o Compucorp, Cunningham House, Westfield Lan, Kenton, Middx

**COMPUNET** – write to Independent Compunet Club, 148 Furzehill road, Boreham Wood Herts. WD6 2DX

**COMPUTER LYNX** – Amiga disk magazine. Only £1.50 plus 50p p&p. Huge range of PD from £1 per disk. Write to 187 Perrysfield Road, Cheshunt, Herts, EN8 0TL.

**CONFERENCING** – Compulink, suite 2, The Scantuary, 23 Oakhill Grove, Surbiton, Surrey KT6 6DU Voice 081-390 8446. CIX BBS 081-399 5252

**CPM & MSDOS Users Group** – 42 Birkbeck Road, Wimbeldon, London SW19 9NZ. Tel 081-543 0824

**CRYPTOGRAPHY & CODES** – Mike Barlow, American Cryptogram Association 5052 Chestnut Avenue, Pierrefonds, Quebec HBZ 2A8 Canada

**DATAEASE USER GROUP** – High-Tech House, 10 Blackfriars Street, Norwich, NR3 1SJF

**DATA PD LIBRARY** for Amstrad CPC users. Send SAE, tape/disk and 50p to Kingsmill 202 Park Street Lane, Park St, St Albans, Herts AL2 2AQ

**DIGITAL PD LIBRARY** – for the Amiga. All disks priced at only £1. Write for a full catalogue to Digital Pd, 20 Vere Road, Hillsborough, Sheffield S6 1SB.

**THE DISK** – Packed with a variety of Amiga PD. S Lord, 6 Stubbing Brink, Hebben Bridge, W Yorks, HX7 6LR. Also latest PD available for £1

**DISABLED** – Jeff Hughes, Special Needs User Group, 39 Eccleston Gardens, St Helens WA10 3BJ 0744 24608

**DMS-ST-PDL LIBRARY** – PD sold, bought and swapped. Only 99p per disk. SAE to DMS, 66 Abbey Road, Strood, Kent, ME2 3QB or tel Nick for ST technical help or more info on PD on 0634 723659 after 4pm

**DRAGON** – Paul Grade, National Dragon Users Group, 6 Navarino Road, Worthing, Sussex or tel 0903 207585

**ECONET** – Michael Ryan, Econet User Gp, Balkeerie Cottage, Eassie by Forfar, Angus DD8 1SR

**EDUCATION** – Charles Shannon, TECUG, 35 Wellington St, Gravesend, Kent DA12 1JG. Tel 0474 567 931

**EIGHT-BIT BACK-UP** 8-bit user group for all. 25p plus SAE. to: 8-bit back-up, 1 Northolme Close, Grays, Essex.

**EINSTEIN PD** – Amiga PD all disks only 80p for the latest list send SAE to The Forge, Pipers Lane, Godmanchester, Cambs, PE18 8JN



**37.50**  
**SOUNDTRAP 3**  
**29.95**

## SOUNDTRAP 3 AUDIO SAMPLER

1. HIGHEST QUALITY
2. SMALLEST ON THE MARKET
3. FITS A1000 OR A500/2000
4. PRINTER PASS-THRU
5. GAIN CONTROL
6. SOFTWARE, SCREWDRIVER & LEAD INCLUDED.
7. COMPREHENSIVE MANUAL

Unless otherwise stated, all our products carry a 12 months warranty, plus Omega Projects prided UNLIMITED SUPPORT

## MINI-MIDI INTERFACE + ---SOFTWARE---

1. HIGHEST QUALITY
2. SMALLEST ON THE MARKET
3. FITS A500/2000/1000\*\*
4. DATA INDICATORS FITTED
5. 2 METRES CABLE BUILT IN
6. FULLY OPTO-ISOLATED
7. TRIED & TESTED DESIGN

\*\*A1000 requires special adaptor

**24.99**  
**MINI MIDI**  
**19.95**

A500 replacement int. drive	£54.95
A2000 internal drives	£59.95
A3000 internal drives	£59.95
45Meg SCSI 3.5" hard drives	£239.95
90Meg SCSI 3.5" hard drives	£349.95
136Meg SCSI 3.5" hard drives	£475.95
182Meg SCSI 3.5" hard drives	£535.95
A590 CMOS RAM chips (512K)	£25.00
B2000 18 pin DRAMS (2Meg)	£109.95
256*1 DRAMS 150ns	£0.99
1.3 ROMS	£34.95
68000 chip (8MHz)	£12.95
68000 chip (16MHz switchable)	CALL
68010 chip	£24.95
68020 chip (20MHz)	£79.95
68030 chip (25MHz)	£195.95
68030 chip (33MHz)	£275.95
68881 co-pro (12MHz)	£49.95
68881 co-pro (16MHz)	£54.95
68881 co-pro (20MHz)	£75.95
68882 co-pro (20MHz)	£99.95
68882 co-pro (25MHz)	£149.95
68882 co-pro (33MHz)	£179.95
68882 co-pro (50MHz)	£399.95
A3000 RAM 256*4 80ns 1Meg	£65.95
A3000 RAM 1024*4 80ns 4Meg	£299.95

512K with clock + switch	£32.95
IN500 with 1.5Meg installed	£99.95
SIN500 OK	£85.95
SIN500 with 2Meg installed	£175.95
X-RAM OK (for A500/1000)	£175.95
X-RAM with 2Meg installed	£279.95
X-RAM with 8Meg installed	£529.95
Octabyte OK (for B2000)	£140.95
Octabyte with 2Meg installed	£249.95
Octabyte with 8Meg installed	£499.95
Inmate OK + SCSI + 68881 Soc	£284.95
Inmate + 2Meg + SCSI + 68881 Soc	£350.95
4 channel audio mixer + mic	£34.95
Sound Trap 3 + Mini-Midi	£47.50
Sound Trap 3 + Audiomaster 2	£54.95
Sound Trap 3 + Audiomaster 3	£84.95
Mini-Midi + Music-X	£94.95
Audiomaster 2	£29.95
Audiomaster 3	£54.95
X-Copy Professional v3.1	£32.95
Byte 'n' Back (h/disk backup)	£19.95
Music-X v1.0	£49.95
3.5" ext. drive + on/off switch	£59.95
3.5" ext. + track counter	£88.49
A590 hard disk OK	£299.95
A590 hard disk 2Meg	£354.95

## 68030 ACCELERATOR CARDS FIT A500/2000/1000 FROM £339.95

CALL FOR THE KEENEST  
PRICES ON THE FASTEST 68030  
AVAILABLE

Amiga 500 Screen Gems Pack	£379.95
AT-Once Card (PC/AT Emulator)	£195.95
5.25" ext Disk Drive (40/80 TRIO)	£109.95

**OMEGA PROJECTS**  
14 DERWENT CLOSE  
CULCHETH, WARRINGTON,  
CHESHIRE, ENGLAND,  
WA3 5DY

**ALL CHEQUES, P.O.'s etc  
should be made payable to  
OMEGA PROJECTS**  
We also take  
Access, Visa, Mastercard &  
Eurocard

23way connector no hood	£1.49
23way connector + hood	£1.99
X-Copy hardware	only £9.95
3.5" blank disks	0.49
10 capacity disk boxes	£1.50
40 capacity disk boxes	£4.50
80 capacity disk boxes	£4.95
Dynamic microphones	£9.95
Condenser microphones	£14.95
Pair Hinari speakers	£19.95
Pair Panasonic speakers	£29.95
Joystick extension lead	£2.50
1.2 metre midi leads pair	£2.95
3 metre midi leads pair	£3.95
5 metre midi leads pair	£4.95

**AMIGA A500  
PLUS  
512K RAM  
inc. CLOCK & SWITCH  
£375.00**  
+ Carriage

**FATTER AGNUS  
CHIPS**  
NOW IN STOCK AT ONLY  
**£59.95**  
WHILE STOCKS LAST

ALL PRICES INCLUDE VAT

68000  
14Mhz SWITCHABLE  
**£42.50**  
NOW PCB MOUNTED

**0925-763946**  
FOR ORDERS & TECHNICAL QUERIES

**0860-795260**  
IF WE ARE OUT OF THE OFFICE

**0204-884230 FOR ORDERS ONLY**

HAVE YOU GOT AN A590 HARD DRIVE THAT IS NEARLY FULL?  
IF SO, DON'T DESPAIR WE CAN UPGRADE YOU!!  
IF YOU ARE STILL UNDER WARRANTY, THEN YOUR OPTION IS  
EXPAND EXTERNALLY, AND IF YOU ARE NOT, THEN EXPAND  
INTERNALLY.....

	EXTERNALLY	INTERNALLY
ALL DRIVES COME WITH CABLE & INSTRUCTION GUIDE	45MEG 339.95	45MEG 259.95
	90MEG 449.95	90MEG 369.95
	136MEG 575.95	136MEG 495.95
DELIVERY EXTRA	182MEG 635.95	182MEG 555.95

**REPLACEMENT  
A500  
INTERNAL DRIVE  
£54.95**

# 512k RAM

## INCLUDING CLOCK & SWITCH

### FEATURES

16 CHIP DESIGN (as Commodores own)  
100% COMPATIBLE WITH a501C  
INCLUDES CLOCK  
INCLUDES ON/OFF SWITCH  
DESIGNED & BUILT IN THE U.K.  
FITTED IN SECONDS  
CORRECTLY PRICED  
WILL CONFIGURE AS CHIPMEM  
12 MONTHS WARRANTY

# £24.95

## £21.95 Without clock

VAT INCLUDED



# MICROSMART MAIL ORDER

24 HRS

0908 564369

0908 615049

## AMIGA UTILITIES & BUSINESS

ART & SOUND	
Aegis Sonix	19.99
A-Max (Mac Emulator)	109.99
Dev Pac 11	44.99
Digital	27.99
Hisoft Basic	59.99
Kindwords	37.99
Lattice C.V.4	164.99
Mavis Beacons Typing	19.99
Protext V.4	59.99
Superbase Personal 2	21.99
GRAPHICS & VIDEO	
Aegis Video Titrer	92.75
Credit Text Scroller	20.90
D'Pal 111 (Pal 1Mb)	57.50
Real Things Birds	20.90
D'Lux Video 111 (Pal 1Mb)	67.75
Photon Paint (Pal)	12.50
Photon Paint 11 (Pal 1Mb)	21.50
Professional Draw 2 (1Mb)	158.50
Pre Video Plus	177.90
Sculpt 3DXL (Pal 1Mb)	112.00
Trip-A-Iron	21.75
Turbo Silver	97.50
TV Show 2.2 (Pal 1Mb)	57.00
TV Text Pro (Pal)	96.50
Video Frame Grabber (Pal/B+W)	96.75
Video Colour Upgrade	16.25
X-Card Designer	79.50
MUSIC APPLICATION	
Aegis Sonix 2.0	45.75
Deluxe Music	50.25
Music X (UK Version)	94.50
Master Sound Digitizer	34.90
Future Sound Digitizer	77.90
Midmaster Interface (5 ports)	31.90
Mini Lead	3.00
BUSINESS EDUCATION	
Advantage	77.50
Fun School 2 over 8's (each)	£12.50
Robot Readers: 3 Bears	22.90
SpellBook 4-6 or 7+ (each)	18.50
Hisoft Basic	56.00
Home Accounts	20.75
Home Office Kit	97.50
Kindwords 2.0 1Mb	34.99
Recommended	34.99
Mavis Beacon	19.75
Typing Tutor	19.75
Micro GCSE Maths	19.25
Micro GCSE French	19.25
Micro GCSE English	19.25
Microtax Word Processor	19.25
Microbase Database	19.25
Pen Pal (Pal 1Mb)	96.90
Prodata	54.00
Protext 4.2 (1Mb)	64.90
Recommended	64.90

WORDPROCESSORS	
Excellence 2	129.95
Kindwords 2	34.95
Penpal	99.62
Protext	64.96
ProWrite 3	99.62
Scribble Platinum	41.96
Transcript	32.89
Wordperfect	164.91
Ultracard Plus	69.92
Virus Infection Prot	34.96
X Copy Backup/Editor	17.94
VIDEO	
Credit Text Scroller	29.90
Deluxe Video 3	69.92
Digi View Gold	119.83
FrameGrabber	569.94
Gold Disk Type Video	34.96
Hitachi Camera & 16mm	199.87
Kars Headline Fonts 2	54.97
Minigen Genlock	99.82
Project D	31.97
The Director	47.84
The Director Tool Kit	27.93
Title Page	139.84
TV Text Professional	99.82
Video Titrer	94.97
Vidi Amiga PAL Digitizer	94.99
Vidi Chrome	19.76
Zoetrope 1Mb	79.91

## MICROSMART MEGADEALS!

All inc. upgrade and clock	
Gold of Realm	39.99
Space Ace	59.99
Dragons Lair 2	59.99
Dragon Master	49.99
J. Nicholas	49.99
Kick Off 2	42.99

EDUCATIONAL	
Answer Back Senior	13.99
Dinosaur Discovery Kit	14.99
Discover Chemistry	13.99
French Mistress	13.99
Fun School 2 (under 16)	12.99
Fun School 2 6-8	12.99
German Master	13.99
Italian Tutor	13.99
Kid Talk	14.99
Math Talk	14.99
My Paint	22.99
Puzzle Story Book	14.99
Rhyming Notebook	14.99
Spanish Tutor	13.99

THE YOUNGER YEARS	
NEW Fun School 3 Under 5	17.99
NEW Fun School 3 5-7	17.99
NEW Fun School 3 7 and over	17.99
Junior Typist	18.99
Micro French (GCSE)	17.99
Things to do with numbers	15.99
Things to do with words	15.99
Spell Book 4-9	13.99
Lets spell at home	13.99
Lets spell at the shops	13.99
Puzzle Book Vol 2	13.99
Amiga Logo	39.99
Mavis Beacon Teaches Typing	18.49
Answer Back Junior	13.99

## ORDER FORM

Have you ordered from us before? YES ☐ NO ☐

Name: .....

Address: .....

.....

.....

Tel No: .....

Please send this to Mircrosmart, 127 High St, Newport Pagnell,  
Milton Keynes. MK16 8SE

## THE NATIONS TOP 125 TITLES

ST	AM
Budokan	16.99
Castle Master	13.99
Chase HQ	13.99
Chess Championships 2175	18.99
Codename Iceman	23.99
Coloneis Bequest	26.99
Conquest of Camelot	26.99
Corporation	16.99
Damocles	16.99
Dragons Breath	21.99
Dynasty Wars	13.99
Emlyn Hughes Soccer	13.99
Escape From Singes Castle	26.99
Escape Planet of Robot Monsters	13.99
Fire and Forget	16.99
Flip and Magnose	16.99
F-29 Retaliator	16.99
Fire and Brimstone	16.99
Flood	16.99
Hero's Quest (1Mb)	23.99
Imperium	16.99
International 3D Tennis	14.99
Iron Lord	16.99
It Came From The Desert (1Mb)	16.99
Kings Quest 4	21.99
Last Ninja 11	13.99
Leisure Suit Larry 3	13.99
Lost Patrol	26.99

ST	AM
Airborne Ranger	9.99
Ant Heads	7.99
ATF 2	16.99
Awesome	24.99
Austerlitz	9.99
Baal	4.99
Ballistrix	4.99
Barbarian 2 (Palace)	7.99
Blasteroids	4.99
Blood Money	9.99
Boulderdash Consat Kit	4.99
Brain Cloughs Football	6.99
Buck Rogers	19.99
Captive	16.99
Carthage	16.99
Conflict in Europe	7.99
Curse of the Azure Bonds	19.99
Daily Double Horse Racing	9.99
E-Swat	16.99
Epic	16.99
FT Ball Manager11+ Exp KT	12.99
Gauntlet 11	7.99
Golden Axe	16.99
Gunboat	16.99
Grand Prix Circuit	9.99
Hard Driven	8.99
Hollywood Collection	19.99
Indianapolis 500	16.99
Infestation	9.99
Ingrid's Back	8.99
Judge Dredd	13.99
Kristal	9.99
Kick Off (1 Meg)	14.99
Line Of Fire	16.99
Lords Of The Rising Sun	11.99
Manic Miner	7.99
Marble Madness	7.99
Menace	4.99
Narc	16.99
Netherworld	4.99
North & South	9.99
Platinum	19.99
Rocket Ranger	6.99
Secrets of the Luftwaffe	19.99
Sega Master Mix	19.99
Sound Express	29.99
Shufflepack Cafe	4.99
Silent Service	9.99

## COMING VERY SOON!!! CALL FOR LATEST DETAILS

ST	AM
4D Boxing	16.99
Botics	13.99
Betrayal	13.99
Billy The Kid	13.99
Crime Wave	16.99
Death Trap	16.99
Dragon Strike	19.99
Duster	16.99
Elo Phantoms	19.99
Eye of the Beholder	19.99
Hill Street Blues	13.99
John Madden American Football	16.99
Midwinter 2	19.99
Mighty Bombjack	13.99

ACCESSORIES	
Naksha Mouse	25.00
Contriver Mouse 5 in 1	18.00
Power Drive ST/Amiga	59.99
QS 2 Turbo	9.99
QS 3 Turbo	9.99
5 in 1 Contriver Mouse	19.99
Compo Pro Extra 5000	12.00
40 Lockable Disk Box	5.99
80 Lockable Disk Box	7.99
Mouse Mat	3.99
Mouse House	1.99
Amiga 4 Player Adaptor	7.99
Amiga 500 Dust Cover	4.99
Disk Cleaning Kit	3.99
Box 10 Bulk disks	6.99
Branded Sony (Box10)	9.99
1/2 Meg	32.99
Amiga + ST Drives	59.99
CM8833 2	259.99
Monitor Lead	9.99
LC200 Colour + Mono + Printer	229.00
LC200 24 Mono Printer	259.00
LC200 24 Colour Printer	329.00

**FAX 0908 262551**  
**24 Hr Hotline 0908 546369**  
**or 0908 615049**

## THE ULTIMATE COLLECTION

	ST	AM		ST	AM
1/2 Meg Upgrade		44.99	Hint Laser Squad	12.99	12.99
Addidas Football	13.99	16.99	Leaderboard Birdie	13.99	16.99
688 Attack Sub		16.99	Leisure Suit Larry 2	19.99	19.99
AMOS		34.99	Leisure Suit Larry 3	26.99	26.99
Austerlitz	16.99	16.99	Licence to Kill	12.99	12.99
Axis Magic Hammer	13.99	13.99	Life & Death	19.99	19.99
BAT *	26.99	19.99	Light Force	16.99	16.99
Back To The Future 2	16.99	16.99	Lombard RAC Rally	14.99	14.99
Balance of Power	16.99	16.99	Loom	16.99	16.99
Birds Tale 1 or 2	5.99	5.99	Lords of the Rising Sun		17.99
Hint Books Bards Tale 2		16.99	Lost Patrol	13.99	16.99
Batman Caped Crusader	12.99	16.99	Magnum 4	16.99	16.99
Batman The Movie	13.99	16.99	Manchester United	16.99	16.99
Battle Command	16.99	16.99	Manhunter New York	16.99	16.99
Battle of Britain	19.99	19.99	Manhunter NY Hint Book	5.99	5.99
Battle Chess	16.99	16.99	Manhunter Sn Francisco	21.99	-
Battle Master	16.99	16.99	Maniac Mansion	16.99	16.99
Beach Volley	13.99	16.99	Matrix Marauders *	13.99	13.99
Billy The Kid *	16.99	16.99	Microprose Soccer	14.99	14.99
Black Tiger	13.99	16.99	M1 Tank Platoon *	21.99	21.99
Blade Warrior *	16.99	16.99	Midwinter	19.99	19.99
Blood Money	16.99	16.99	Midnight Resistance	13.99	16.99
Bloodwych Data Disk	9.99	9.99	Mini Office Comms	16.99	-
Bomber	21.99	21.99	Mini Office Graphics	16.99	-
Boxing Manager	13.99	13.99	Mini Office Spread	16.99	-
BSS Jane Seymour	16.99	16.99	Murder *	16.99	16.99
Budokan		16.99	New Zealand Story	13.99	16.99
Cabal	13.99	16.99	Night Breed *	13.99	16.99
Carrier Command	14.99	14.99	Ninja Spirit	13.99	16.99
Castle Master	16.99	16.99	Ninja Warriors	13.99	13.99
Cavader *	16.99	16.99	Nitro *	16.99	16.99
Chaos Strikes Back	16.99	-	North & South	16.99	16.99
Chuck Yeager *	16.99	16.99	Operator Stealth	16.99	19.99
Chase HQ	13.99	16.99	Oriental Games	16.99	16.99
Colorado	16.99	16.99	Operation Thunderbolt	13.99	16.99
Combo Racer	13.99	13.99	Operation Harrier *	16.99	16.99
Corporation	16.99	16.99	Operation Wolf	12.99	14.99
Commando	13.99	13.99	Overlander		13.99
Commando War	16.99	16.99	P47	15.99	15.99
Conflict Europe	16.99	16.99	Paperboy	12.99	12.99
Coloneis Bequest (1Mb)		26.99	Pipemania	13.99	16.99
Conquest Camelot (1Mb)		-	Pirates	15.99	15.99
Conqueror	16.99	16.99	Player Manager	12.99	12.99
Continental Circus	13.99	13.99	Plotting *	13.99	16.99
Crackdown	13.99	13.99	Police Quest	16.99	16.99
Crazy Cars 2	11.99	14.99	Police Quest 2	6.99	8.99
Cyberball	13.99	13.99	Police Quest 2	16.99	16.99
Damocles	13.99	13.99	Populus	16.99	16.99
Dan Dare 3	13.99	13.99	Populus Promised Lands	7.99	7.99
Dark Century	16.99	16.99	Power Drome	16.99	16.99
Days of Thunder	19.99	19.99	Power Drift	16.99	16.99
Degas Elite	17.99	-	Power Monger	16.99	16.99
Deluxe Music Con Kit		69.99	Precious Metal	15.99	15.99
Deluxe Paint 3		59.99	Pro Tennis Tour	16.99	16.99
Deluxe Photoball		59.99	Rainbow Islands	13.99	16.99
Deluxe Print 2		69.99	Red Storm Rising	15.99	-
Deluxe Production		69.99	Resolution 101	16.99	16.99
Deluxe Video		79.99	Rokris Drift	16.99	16.99
Dick Tracy *	16.99	16.99	Rick Dangerous	15.99	15.99
Doctor Doom	16.99	16.99	Rick Dangerous 2 *	16.99	16.99
Dragons Lair 2		26.99	Risk	13.99	13.99
Dragons Lair	12.99	12.99	Robocop	12.99	15.99
Dragons Lair 2	21.99	21.99	Robocop 2	13.66	16.99
Dragons Lair (1MB)		26.99	Rocket Ranger 2	16.99	17.99
Dragons of Flame	16.99	16.99	Rotox	16.99	16.99
Drakken	21.99	21.99	Run The Gauntlet	12.99	15.99
Dungeon Master	16.99	16.99	RVF Honda	14.99	14.99
Dungeon Master Editor	7.99	7.99	S Quest 1, 2, 3 Hint BK	6.99	6.99
Dungeon Master Hints	9.99	9.99	Shadow Warriors	13.99	16.99
Dynamite Debugger *		16.99	Secret of Money Land	19.99	19.99
Dynasty Wars	13.99	16.99	Shadow of the Beast		22.99
Edon One *	16.99	16.99	Shadow of the Beast 2		24.99
Elite	14.99	14.99	Sherman M4	16.99	16.99
Emlyn Hughes	13.99	13.99	Shinobi	12.99	12.99
Emlyn Hughes Quiz *	13.99	13.99	Shoot em up Construction Kit	19.99	19.99
Escape From Robot Monsters	13.99	13.99	Silent Service	14.99	-
F16 Combat Pilot	16.99	16.99	SimCity	19.99	19.99
F19 Stealth Fighter	19.99	19.99	Sim City Terrain		13.99
F29 Retaliator	16.99	16.99	Sir Fred	16.99	16.99
Falcon	16.99	16.99	Slideshow		16.99
Fantavision		29.99	Silkworm		16.99
Falcon Mission Disk	13.99	13.99	Skate or Die *	16.99	16.99
Falcon Mission Disk 2	13.99	13.99	Sound Express		16.99
Farey Tale Adventure		13.99	Stereo Sampler		34.99
Ferrari Formula 1	16.99	16.99	Sleeping Gods Lie	14.99	14.99
Fighting Soccer	13.99	16.99	Sly Spys	13.99	16.99
Final Battle		16.99	Show Strike *	16.99	16.99
Fireball *	16.99	16.99	Space Ace	26.99	26.99
Fire And Brimstone	16.99	16.99	Space Quest 3	26.99	26.99
Fire And Forget 2 *		16.99	Space Harrier 3	13.99	13.99
Flight Sim 2	26.99	26.99	Spy Who Loved Me	13.99	13.99
Flight Of The Intruder	16.99	16.99	Star Trek V	16.99	16.99
F11 Disk 7 or 11	13.99	13.99	Star Wars Trilogy	16.99	16.99
F11 Disk European	13.99	13.99	Star Flight	16.99	16.99
F11 Disk Japan	13.99	13.99	Star Flight Hint Bk		5.99
Football Director 2	12.99	12.99	Star Glider 2	14.99	14.99
Ftball Manager 2 Gift Pck12.99	12.99	12.99	Stos	19.99	19.99
Ftballer Of The Year 2	13.99	13.99	Stos Games	13.99	-
Full Metal Jacket	16.99	16.99	Stos Complex Galore	16.99	-
Fun School 2 (6-8)	11.99	11.99	Stos Maestro	16.99	-
Fun School 2 (over 8)	11.99	11.99	Stos Spirits 800	11.99	-
Fun School 2 (under 6)	11.99	11.99	Slider	13.99	16.99
Future Wars	16.99	16.99	Stunt Car Racer	15.99	15.99
Ghostbusters 2	16.99	16.99	Stunt Runner	16.99	13.99
Ghost & Goblins	13.99	13.99	Subbutoe	12.99	12.99
Ghouls & Ghosts	13.99	16.99	Super Cars	13.99	13.99
Gold Of The Americans		16.99	Swords Of Twilight	16.99	16.99
Gold Of The Aztecs	16.99	16.99	Swords Of Twilight Hint Bk	5.99	5.99
Golden Shoe *	13.99	16.99	Teenage Mutant Turtles		19.99
Grand National		13.99	Test Drive 2 Super		9.99
Grand Prix Circuit		16.99	Test Drive 2		16.99
Gravity	16.99	16.99	Tt Drive 2 Callif Chall		9.99
Gremilins 2 *	13.99	13.99	Test Drive 2 Muscle Cars		9.99
Gunship	14.99	14.99	The Jetsons		16.99
Hard Drivin *	13.99	13.99	The Plague	16.99	16.99
Heavy Metal	13.99	13.99	Thunderstrike	13.99	16.99
Heorots	19.99	19.99	The Cycles		16.99
Highway Patrol	16.99	16.99	Theme Park Mystery	16.99	16.99
Hillstar	16.99	16.99	The Kristal	19.99	9.99
Hounds Of Shadow	16.99	16.99	Time	19.99	19.99
Imperium	16.99	16.99	Tobin	13.99	13.99
Impassable	13.99	13.99	Total Eclipse	13.99	13.99
Indy Jones Action	13.99	13.99	Total Recall *		16.99
Indy Jones Adventure	16.99	16.99	Tower Of Babel	16.99	16.99
Indy Jones Hint Book	5.99	5.99	Track Suit Manager	12.99	12.99
Interceptor		16.99	Trained Assassin		13.99
Interphase	16.99	16.99	Triad Vol 3	19.99	19.99
Int Champ Wrestling		16.99	Turbo Outrun	13.99	16.99
Int Soccer Challenge *	16.99	16.99	Turricorn		16.99
Iron Lord	16.99	16.99	TV Sports Baseball *		19.99
Italy 1990	16.99	16.99	TV Sports Basketball		19.99
It Came From The Desert (1Mb)		19.99	TV Sports Football	16.99	17.99
It Came From The Desert Data		9.99	Tycoon Thompson		13.99
Ivanhoe	13.99	16.99	Twin World	16.99	16.99
J. Nicholas Extra Courses	9.99	9.99	UMS	14.99	14.99
J. Nicholas Golf	16.99	16.99	UMS 2	15.99	15.99
J. Nicholas Unlimited Golf	19.99	19.99	UMS Senario 1	8.99	-
Jumping Jackson	16.99	16.99	UMS Senario 2	8.99	-
K Quest 1,2,3,4 Hint Bk	6.99	6.99	Unreal	16.99	16.99
Keef The Thief		16.99	Unfochables	13.99	16.99
Keef The Thief Hint Bk		5.99	Verminator	15.99	16.99
Kennedy Approach	14.99	14.99	Vortex		13.99
Kick Off	11.99	11.99	Warhead	16.99	16.99
Kick Off 2	12.99	12.99	Walker *	16.99	16.99
Kick Off Extra Time	7.99	7.99	Waterloo	16.99	16.99
Kid Gloves	16.99	16.99	Wayne Greizky Hockey	14.99	14.99
Kind Words 2		34.99	Weired Dreams	15.99	15.99
Kings Quest 4	21.99	21.99	Wild Streets	16.99	16.99
Kings Quest Triple	26.99	26.99	Wings		19.99
Killing Game Show *	16.99	16.99	Wings Of Fury	13.99	13.99
Klax	13.99	13.99	Wings Of Cupid	16.99	16.99
Knight Of The Crystallion	21.99	21.99	Xenomorph	16.99	16.99
Kult Hint Book	14.99	14.99	Xenon 2 Megablast	16.99	16.99
Silkworm Tv *	13.99	13.99	Zack Mckracken	16.99	16.99
			Zombi	16.99	16.99



In terms of last week's definition of functional languages, Lisp does not strictly qualify. However, it is more widely available than most of the true functional languages, although Miranda is gaining in popularity, and it is based on the Lambda calculus. There are advantages to allowing side effects, to set against the need to order the steps of the program. Lisp is well suited to describing situations or "states" and applying rules or processes that cause transformations from one state to another.

States can be used to describe a wide range of problems, from the state of the board in a game of chess, to the stages of a mathematical problem being solved, to the description of an unknown disease that we are trying to identify. If we know how to cause different states, we can search through all the possible states of the problem, until we find one that we can use as a solution; this is called a "state space search" because we are searching through the space occupied by all the different states. To make these transformations one variable at a time, as we would have to if a function could not change the values of any other variables, would be rather impractical.

Like Prolog, Lisp is based on recursion. It applies this technique to functions, rather than to logical definitions; to evaluate a function, evaluate those functions that make up the main function, and so on until an answer is reached that can be passed back up through the chain of function calls to provide an answer for the main function, the program itself.

Lisp is an interpreted language for manipulating symbols — objects that represent an item of data. Individual symbols can be assigned to atoms, variables or constants defined in a program, and lists are a very convenient pre-defined data structure for storing groups of symbols. There are built-in operators to process them, but programmers can define virtually any data structures they require. All objects and structures in Lisp are "first class citizens," which means that there are no restrictions on what objects can be used for. Any object can be passed to a variable as a value, passed to a procedure as an argument, returned as a result or stored in another data structure, so that all expressions can refer to any other expressions in the program, directly or indirectly. Added to this freedom is the fact that the symbols or objects in a program do not have to be given values by the program until such a decision is unavoidable and these values can be altered without much difficulty. Another advantage is the power that some dialects of Lisp give you over memory allocation and the recovery of memory used for data that is no longer needed — garbage collection.

There are a multitude of Lisp dialects; Scheme was designed for teaching programming and although it is not fully compatible with Common Lisp, it is an excellent

# LEARNING TO LISP



Lisp is much more than just list processing — it works well in describing state and applying rules or processes. Mary Branscombe uses Lisp to make meaningful expressions.

starting point. Once you have learnt how to use Scheme, other dialects of Lisp can be seen as extensions of what you already know.

Objects in Lisp that can be executed, as opposed to those that simply represent basic symbols, are represented by Lambda expressions, a term which derives from the Lambda calculus on which functional languages are based. Lambda expressions in Scheme start with the keyword Lambda, followed by a list of parameters which may be empty, represented by (), and a sequence of expressions. When a Lambda expression is applied to its parameters, these expressions are evaluated in order and the last value calculated is returned as the result of the function application. The Lambda expression we saw last week, for calculating the square of a parameter in a rather roundabout manner, would look like this in Scheme:

```
((lambda (x) (/ (+ (*xx) (*xx)) 2)) 5)
```

Here, (x) is the list of parameters and (/ (+ (\*xx) (\*xx)) 2) 5 is the sequence of expressions. Five is taken as the value of x and  $2x^2$  is divided by two, to give  $x^2$ , or 35. Lambda expressions may have a fixed number of parameters, or they may take a variable number of parameters depending on the circumstances; this is a particularly useful feature. If the number of parameters is fixed, the parameters are enclosed in brackets, with comments indicated by semicolons, as follows:

## WHAT IS LISP?

There is no ANSI standard for Lisp, probably because it was initially distributed mainly by users taking copies of the language with them when they left MIT, where McCarthy had developed the language in the "MIT Artificial Intelligence Project." Many dialects of Lisp developed in the 70s and early 80s, the most popular of which was the Interlisp partly developed at Xerox Parc and Stanford University. The use of Lisp in universities and the many modifications made to the language within those universities made it

hard to find a standard, but Common Lisp represents the only agreed standard so far.

Dissatisfaction with the specification of Common Lisp led Jerry Sussman of MIT to develop Scheme, a version of Lisp designed for teaching programming. Versions of Scheme and Common Lisp have been developed for parallel processing. Object-oriented programming, where the code of the program is separated into "objects" which deal with particular types of data, was catered for in some Lisp

dialects and a standard has been devised to go with Common Lisp, the Common Lisp Object System (CLOS).

Many smaller languages, such as MicroPlanner and Conniver, have been written in Lisp and Prolog was first implemented in Lisp.

The previous lack of low-priced implementations has contributed to the relative unpopularity of Lisp, but there are many good implementations now available, some of which are distributed as Shareware.

## THINGS ABOUT LISP

- Lisp is designed for manipulating symbols.
- Although it is not strictly a functional language, Lisp is based on Lambda calculus.
- Common Lisp is the nearest thing to a Lisp standard.

```
((lambda (aFriend) ;a single parameter
  (DisplayList "hello " aFriend)); the
expressions
'madHatter) ; the single argument
; hello madHatter
```

DisplayList is simply a function to display a number of objects. Because it is inside quote marks, hello is treated as a string and the program does not try to execute it as a function. The single quote before madHatter serves the same purpose, because madHatter is the argument that the expressions are applied to, not another expression in the list; we are telling the interpreter to pass the quoted object on without trying to do anything with it. Many dialects of Lisp provide the eval function, which forces the interpreter to try to evaluate an expression, but this is not available in Scheme. The response of the program is 'hello madHatter'.

If the number of parameters is not fixed, then we do not put brackets around them. Again, the arguments are quoted so that Lisp passes them to the expression DisplayList rather than trying to evaluate them.

```
((lambda someFriends ;no brackets
  (DisplayList "hello " someFriends))
'madHatter 'doormouse 'redQueen)
;expression given 3 arguments
; hello (madHatter doormouse redQueen
```

The arguments are put into a list and passed to the DisplayList lambda expression.

Having looked at the way Lisp works, next week we will look at the basic constructions of the language. ■

## HAVING PROBLEMS WITH YOUR PROGRAMS?

Whether you program in Lisp or Logo, if you let us know about your code, we'll try to untangle it.



**Seven Tiles • Amiga • NBS • G199**

*Seven Tiles* is a futuristic football simulator, which resembles a PD version of the classic full-priced game *Speedball*. It's loosely based on the nation's favourite sport, in that there are two goals at either end of the pitch, and you have to place the ball in the back of your opponent's net while stopping the same thing happening to you. Apart from that, though, it's very different.

The background is a sort of metallic grid, constructed mainly from bas-relief squares. The playing pitch is many times larger than the screen, which scrolls to keep up with the progress of the ball.

The game starts with the ball in the centre of the pitch. Players from each team position themselves in both halves – there's no boring off-side rule here – but they are all some distance away from the ball. When the whistle blows both

# THE PD COLUMN

**Adam Waring discovers a futuristic footie program and a magical adventure game for small children available at a mere snip from the realms of Public Domain.**

sides have to charge towards it in a mad scramble to gain possession.

Having so many players means that passing is quite accurate and profitable. Indeed, each player is only allowed a certain amount of time before he has to relinquish the ball. A bar at the top of the screen indicates how much time you have left. Kicking is achieved with the fire button; the longer you hold it down

before releasing it, the harder the ball is struck, and the further it travels. Should it hit the side of the pitch, it merely bounces from the walls that surround the playing area. There's no such thing as a throw-in in this game. In fact there aren't really any rules at all except for scoring.

You always control the player nearest the ball. This works well most of the time, but occasionally it is annoying

when you're chasing the ball with one player, and another suddenly appears nearer to it. For a few moments, you're unsure which is which, and lose control.

Either one or two players can take part. In a one player game the computer takes control of the other team. The computer plays well, but is not unbeatable, so it's quite a challenge playing your Amiga. The real fun is, of course, when you face a human opponent. Then the competition really is fierce, as you battle it out goal for goal.

The players are quite small and viewed from above. This isn't a drawback, however, as it makes the field seem so much larger, and so much more impressive in comparison.

The sound is great; there is a constant excited buzz from the crowd over which are a variety of sound effects and digitised samples of speech which announce things like bonuses, half time and so forth.

## WHERE TO GO FOR THAT ESSENTIAL PD SOFTWARE

**TOM ZUNDER**

23 Rosedale Way, Bramley, Rotherham S66 0LE. Tom is author of *Michael's Big Adventure*. He has put it into the public domain, where it'll be available from many of the established libraries, but you can also buy it directly from him.

*Michael's Big Adventure* costs £3 for a double-sided expanded disk, £4 on two

normal double-sided disks or £5 on three single-sided disks.

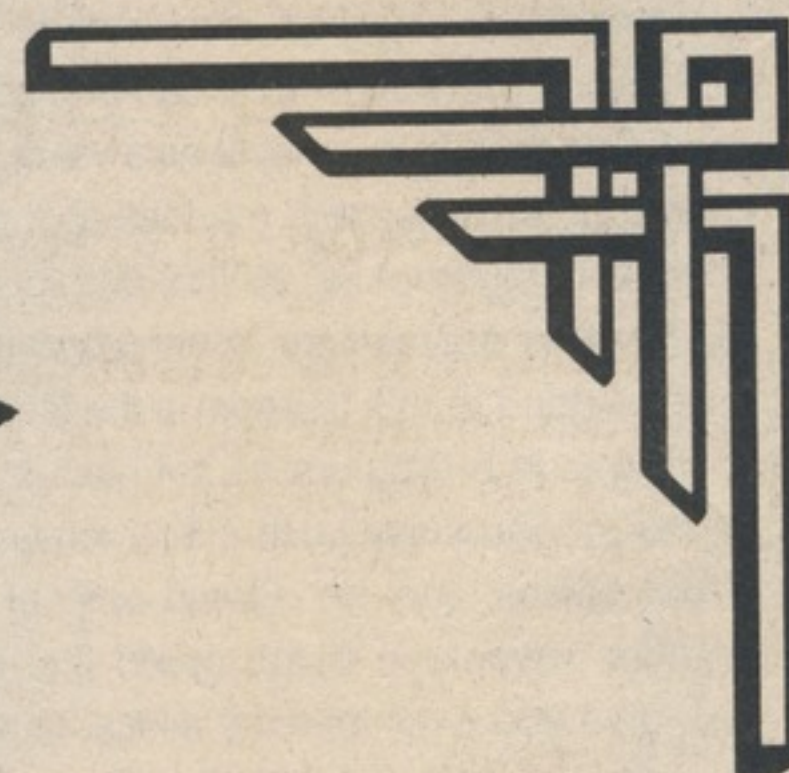
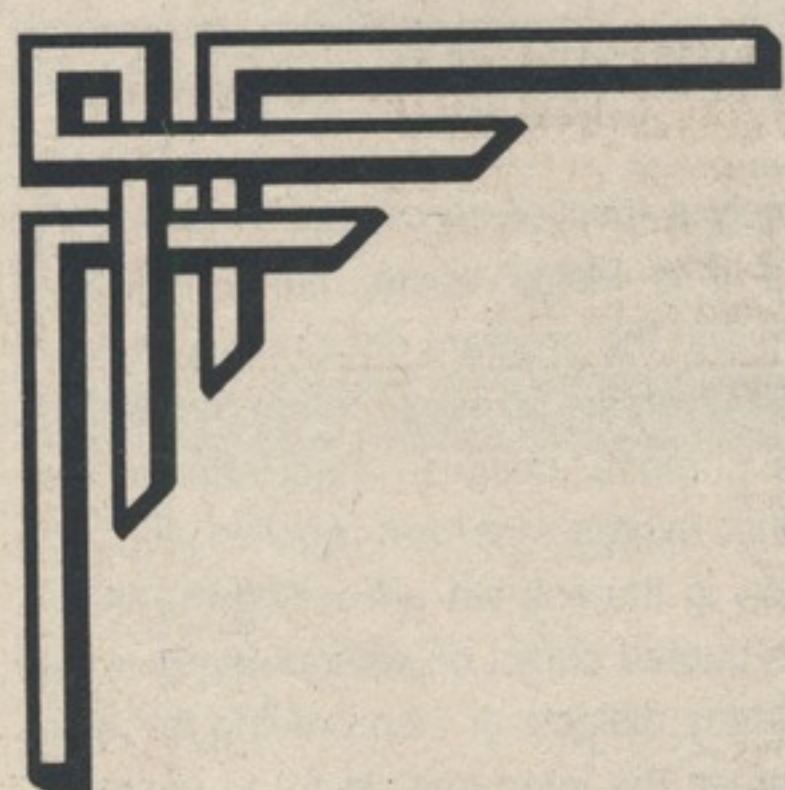
**NBS**

132 Gunville Road, Newport, Isle Of Wight, PO30 5LH. Telephone 0983 529594. An impressive professional Amiga PD supplier which produces a regular glossy fanzine. The disks cost just 99p each,

with a 60p postage and packing fee for every order, irrespective of the amount.

**CALEDONIA PD**

250 Old Town Road, Hillton, Inverness, Scotland, IV2 4JP. 0463 225736. This ST PD from north of the border is the sole distributor of the TV titles program. Up to nine disks £2, 10 or more £1.50.

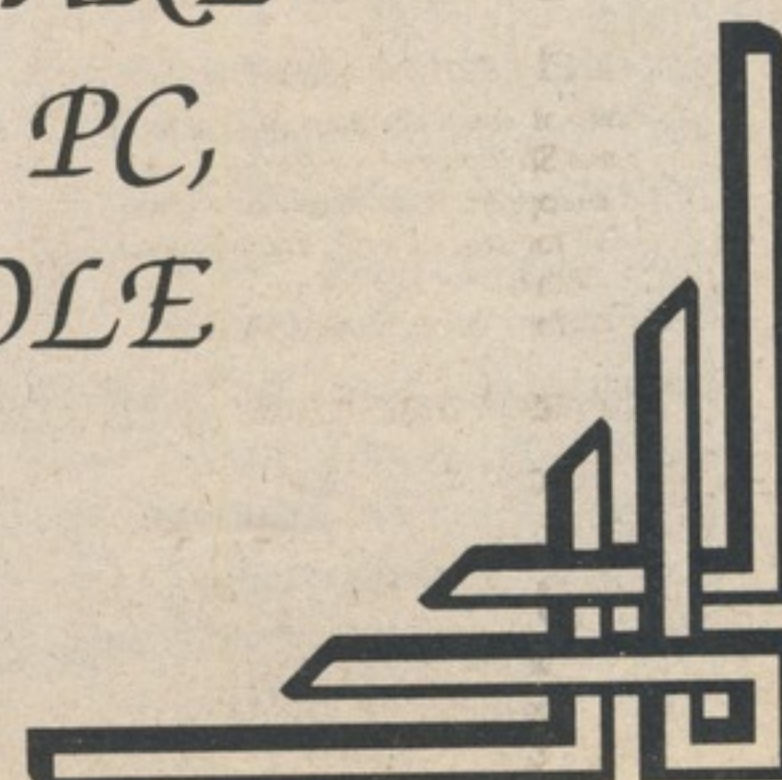


MAIL ORDER

**Freepost DC 574, DONCASTER,  
South Yorkshire, DC5 8BR**

*SEND FOR OUR CATALOGUE FOR ALL  
YOUR ROLE - PLAYING.*

*GAMES AND COMPUTER SOFTWARE  
FOR THE ATARI ST, AMIGA, C64, PC,  
SPECTRUM, AMSTRAD & CONSOLE  
GAMES AND MINIATURES  
AND MODELS.*





This is one of the best PD games I've seen on the Amiga. If you're a fan of fun, then I strongly recommend that you add it to your collection.

## TV titles 2.0 • ST (STE compatible version) • Caledonia PDL • AU-0050

If you own a cam-corder then it's more than likely that you'll have had a shot at making a home movie with your expensive toy. And what better way to give your movie a more professional finish than using proper titles for the credits.

This is a demo version of a TV titling program (the full program costs £25 from Caledonia). A full set of effects is available, so as well as the traditional text scrolling up the screen, there are various fades, colour cycling operations, and so forth with which you can experiment.

A rolling demonstration shows what the program is capable of doing and a text file containing step-by-step instructions accompanies the program.

## Michael's Big Adventure • ST • Tom Zunder

Michael was lonely. He wanted a friend with whom he could play. One day a wizard came along and magicked one up for him. What exciting adventures they would have together!

Michael's Big Adventure is a great little graphic adventure for kids. It was written by Tom Zunder for his eight year old son Michael. The pictures are so

rough, they look like they were drawn by Michael himself, rather than his Dad. Wonderful stuff!

It's not one of those boring traditional adventures, where you have to type in reams and reams of text to perform even the simplest action. Michael's Big Adventure (we'll call it that for short) is much friendlier, as no keyboard interaction is necessary. Instead it features pictures which you point at and click on using a mouse.

You can click anywhere you like on the screen, but information is not always forthcoming! A good bet is to click on the characters that appear in the game, and on any new objects you come across. For example, Michael wears a badge that says things like "Hi! I'm a badge".

When text does appear it takes the form of a speech bubble. Often these present you with a number of options and you make decisions by clicking on the course of action which most appeals to you.

For the first few screens you have little control over events as there is only one option available on each. But once the initial sequence is over, there are far more choices and the game really starts to open up. It is possible for Michael to be killed, though, so beware of strange men offering to show you his puppies.

Michael's Big Adventure was written using Talespin, the adventure creation system from Microdeal. ■



• Not all the information in Michael's Big Adventure is very helpful in furthering the plot.



• The graphics aren't exactly Shadow of the Beast but they are appealing in their simplicity.

## PD & SHAREWARE who do you get yours from?



There are many PD libraries around but do they offer you....

- ★ Huge collection, thousands of programs on over 3000 disks
- ★ Same day service - 1st Class post - GUARANTEED
- ★ Knowledgeable staff on hand (no 'phone after six and ask for fred!')
- ★ Three years experience collecting and distributing PD & Shareware to satisfied customers all over the world.
- ★ Send £1.00 for catalogue - free with order - please request and state MAKE of computer CLEARLY.

## AMIGA

currently over 800 disks in our catalogue, including Fred Fish, APDC, AMICUS, Panorama etc. Our own SOF collection is so good other libraries stock them now and of course we are exclusive distributors of the fabulous UGA disks. All are auto-boot, menu driven and so very easy to use, probably the best collection available! We also run an Amiga Club, ask for details.

## ATARI ST

We currently stock over 800 disks full of PD/Shareware for these machines, containing every imaginable type of program! Choose from ALL the Public Domain, not just "a selection". If you are new to ST'ing why not join "Clubville", our popular user group, £6.50 gets you new sheets, offers, special prices on goods, 5% Off blanks/PD etc.

## IBM PC

(and compatibles)

Thousands of the most popular Public domain and Shareware programs in our current catalogue, all available on either 3.5" or 5.25" format, if ordering (opposite) state which. Whatever type of program you may require, we've probably got it.

## MEGA PACK - £19.50 (£14.50)

5 PD disks + 5 blank disks

plus a Library case

(Selection of current popular titles).

INTRO DISK - £1.50

(Atari or Amiga only)

VIRUS KILLER DISK - £1.50

(state machine clearly)

(prices in brackets for 5.25" disks, state preferred)

24 Hour orderline on

0705-266509



## SOFTVILLE

Unit 5, Stratfield Park,  
Electra Avenue, Waterlooville,  
Hants. PO7 7XN

## AMIGANUTS UNITED

169, DALE VALLEY ROAD, HOLLYBROOK, SOUTHAMPTON, SO1 6QX. 0703 785680 Weekdays only.

Official UK distributors of the great Merlin software from USA



521:	ALL NEW STAR TREK. With AUTHORISED English instructions.	£4.00
576:	EDUCATION packed with progs for the children.	£2.00
581:	SID. v 1.06 Find the CLI a slog? Then you need this prog.	£2.00
639:	C MANUAL by Anders Bjerin, 3 disks, 200 pages of advice.	£5.00
640:	8 GAMES Including the TRAIN SET, A MUST for the kids.	£2.00
649:	BUDBRAIN TWO DISK MEGADEMO, (FOR ADULTS ONLY).	£3.00
658:	ANIMBRIDGE (alter animfiles) + Update of SKYPAINT/SKYPLAY	£2.00
700:	D-COPY V1. EXCELLENT copier program. Full instructions.	£2.50
728:	UTILS The Famous BOOT-SHOP, BOOT-KIT + others.	£2.50
741:	NorthC v1.3 LATEST version from Steve Hawtin. 2 DISKS.	£5.00
790:	STARTEKKER MUSIC UTIL + DISKMASTER V3 & OTHER UTILS.	£2.00
793:	CONVERT (utility) IFF to GIF & GIF to IFF + others.	£2.50
812:	STAR TREK U.S. Version. GOOD! (1 MEG Min) (2 Drives).	£4.00
832:	TEXTPLUS 2.0 THIS IS AN EXCELLENT PD WORDPRO PACKAGE.	£2.50
839:	C-LIGHT RAY TRACING PACKAGE. A MUST FOR THE ARTIST!	£2.50
848:	KEFRENS excellent POWERMENU & FONT DESIGNERS. A MUST!	£2.50
901:	AMI-FX issue 2. A MUST for fractal fans. (3 disks, 1 Meg)	£4.50
906:	DYNAMITE DICK. Dig for treasure avoid the bats! GOOD.	£2.00
907:	SLAKES & LADDERS GAME. This is a MUST for ALL ages.	£2.00
910:	PAIR-IT. An excellent educational game for the kids.	£2.00
922:	BAD BIRD ANIM By Dr. Gandolph (1 MEG - EXCELLENT).	£1.50
924:	GAMES. GERBILS/BOOMERANG/DOMINION/SHARK/STAR TREK.	£2.00
933:	A-GENE Genealogy THIS IS THE NEW V3. (1 MEG Min).	£2.00
939:	FRAXIONS NEW MEGADEMO "THE WALL" IT'S GOOD!	£1.50
946:	ANARCHY DEMOS COLLECTION. PLUS A HARD TO PLAY 3d GAME.	£1.50
950:	THE EVIL DEAD. CAN YOU KILL THE ZOMBIES?	£1.50
962:	BEEBLE. UNUSUAL PICS WITH 7 MUSIC TRACKS. BY DESIRE.	£1.50
963:	NEXT INFESTATION I. FIVE GOOD COPPER DEMOS ETC.	£1.50
965:	S.A.E. AMAZING TUNES II. OUTSTANDING! (3 DISKS-1 MEG).	£4.00
966:	BUDBRAIN MEGADEMO II. ANOTHER GOOD'N FROM BUDBRAIN.	£1.50
968:	ANOTHER WELL PRESENTED PICTURE/MUSIC DISK BY DEXION.	£2.00
971:	NEW MASTER VIRUS KILLER V2. KILLS 105 OF THE PESTS!	£2.00
979:	PRO TENNIS II. GREAT PLAYABLE DEMO OF THIS NICE PROG.	£1.00

\*\*\*\*\* THE LISTING BELOW IS FROM OUR LICENCED PROGRAMS \*\*\*\*\*

705: AMIBASE PROFESSIONAL. This is a good database prog. (1 MEG AMI-PROF II COMING SOON, IT'S FANTASTIC! WATCH THIS SPACE)

864: MOD PROCESSOR. Make executable picture/music progs.

876: QUIZMASTER Think you know it all? Well now you can PROVE it. With full save and re-load facility. (1-4 players). GOOD.

877: 1 ACROSS 2 DOWN. Complete Crossword program. (2 DISKS)

877 DATA. DISK NUMBERS 2 AND 3 AVAILABLE NOW FOR ONLY £2.00 EACH.

899: MATCH-WORDS. SOLVE THOSE CROSSWORDS/ANAGRAMS EASILY!

INTO CODING? - OR WANT TO LEARN? THE AMIGA CODERS CLUB IS FOR YOU.

ACC 1-4: Introductory issue to the famous AMIGA CODERS CLUB

ACC DISKS ARE PACKED WITH SOURCE, HINTS TIPS FROM MANY OF THE WELL KNOWN CODERS THAT ARE ON THE AMIGA SCENE TODAY. WORTH COLLECTING!

ISSUES 5, 6, 7, 8, 9, 10 Available now. (ACC disks are £3.00 per issue).

\*\*\*\*\* LOOK \*\*\*\*\*

973: MED V3 IS HERE! THE VERY LATEST MUSIC UTILITY FROM Tei jo. IT'S PRESENTATION IS ABSOLUTELY

\* BRILLIANT! GET THIS NOW! £3.00 MED SAMPLES! SIX DISK PACK OF GREAT SOUNDS FOR THE ABOVE £8.00 \*

\*\*\*\*\* FREE DISKS + FREE PROGS + FREE MEMBERSHIP - A THOUSAND DETAILED PROGS PLUS SOME GAMES TO PLAY,

ON THE MAIN CATALOGUE DISK. £1.00. (WE DO NOT ACCEPT CREDIT CARD ORDERS)

THE FEBRUARY UPDATE TO OUR MAIN CATALOGUE IS AVAILABLE FOR £1.00

(Feb update contains only the LATEST additions to the library)



Always

Reasonable

Reliable

And

No Fuss

## AMSTRAD

### ADVANCED SYSTEM CENTRE

#### PC 2086

12 Month on-site maintenance included in price

	R.R.P	OUR
SD Mono 12"	£499.00	£449.00
DD Mono 12"	£599.00	£539.00
HD Mono 12"	£799.00	£674.00
SD Colour 14"	£649.00	£539.00
DD Colour 14"	£749.00	£629.00
HD Colour 14"	£949.00	£764.00
SD Colour 12" Hi Res	£649.00	£584.00
DD Colour 12" Hi Res	£749.00	£674.00
HD Colour 12" Hi Res	£949.00	£799.00
SD Colour 14" Hi Res	£699.00	£629.00
DD Colour 14" Hi Res	£799.00	£719.00
HD Colour 14" Hi Res	£999.00	£854.00

#### PC 2286

	R.R.P	OUR
DD Mono 12"	£899.00	£809.00
HD Mono 12"	£999.00	£899.00
DD Colour 14"	£1049.00	£944.00
HD Colour 14"	£1149.00	£1034.00
DD Colour 12" Hi Res	£1049.00	£944.00
HD Colour 12" Hi Res	£1149.00	£1034.00
DD Colour 14" Hi Res	£1099.00	£989.00
HD Colour 14" Hi Res	£1199.00	£1079.00

#### PC 2386

	R.R.P	OUR
HD Mono 12"	£1999.00	£1699.00
HD Colour 14"	£2149.00	£1850.00
HD Colour 12" Hi Res	£2149.00	£1850.00
HD Colour 14" Hi Res	£2199.00	£1899.00

### PC 3000 SERIES

CONFIGURED IN EITHER 3 1/2" OR 5 1/4"  
3086 includes free Amstrad printer and migent ability

#### PC3086

	R.R.P.	OUR PRICE
PC 3086 SD 12" MD	£549.00	£494.00
PC 3086 SD 14" CD	£649.00	£584.00
PC 3086 SD 14" HRCD	£749.00	£674.00
PC 3086 DD 12" MD	£649.00	£584.00
PC 3086 DD 14" CD	£749.00	£674.00
PC 3086 DD 14" HRCD	£849.00	£764.00
PC 3086 HD30 12" MD	£799.00	£719.00
PC 3086 HD30 14" CD	£899.00	£809.00
PC 3086 HD30 14" HRCD	£999.00	£899.00

#### PC3286

Now includes Lotus 1, 2, 3

PC 3286 SD 12" MD	£749.00	£674.00
PC 3286 SD 14" CD	£849.00	£764.00
PC 3286 SD 14" HRCD	£949.00	£854.00
PC 3286 HD40 12" MD	£999.00	£899.00
PC 3286 HD40 14" CD	£1099.00	£989.00
PC 3286 HD40 14" HRCD	£1199.00	£1079.00

#### PC3386

PC 3386 SX HD40 12" MD	£1399.00	£1180.00
PC 3386 SX HD40 14" CD	£1499.00	£1250.00
PC 3386 SX HD 40 14" HRCD	£1599.00	£1349.00

### LAPTOPS

Includes free Canon portable Bubble Jet printer

ALT 286	£1599.00	£1350.00
ALT 386 SX	£1999.00	£1730.00

## PHILIPS

### NEW LOWER PRICES

Includes

- ★ Microsoft Works version 2
- ★ PC Shell version 6
- ★ File Management Utilities - MS DOS version 4.01
- ★ 2 Quality Games

#### PCD 100

	R.R.P	OUR
SD mono 14"	£600.00	£525.00
DD mono 14"	£700.00	£610.00
HD mono 14"	£900.00	£810.00
SD col 14" CGA	£700.00	£610.00
DD col 14" CGA	£800.00	£699.00
HD col 14" CGA	£1000.00	£900.00

#### PCD 200

	R.R.P	OUR
20Mb HD 14" mono VGA	£1050.00	£845.00
40Mb HD 14" mono VGA	£1150.00	£925.00
20Mb HD 14" col VGA	£1200.00	£965.00
40Mb HD 14" col VGA	£1300.00	£1050.00

#### PCD 300

	R.R.P	OUR
40Mb HD 14" mono VGA	£1500.00	£1199.00
100Mb HD 14" mono VGA	£1849.00	£1490.00
40Mb HD 14" col VGA	£1650.00	£1299.00
100Mb HD 14" col VGA	£2000.00	£1599.00

### DISK DRIVES

3.5" Internal 720k	£65.00
5.25" Internal 360k	£69.00
5.25" Internal 1.2Mb	£85.00

### HARD DISKS

OUR PRICE

32Mb Western Digital	£180.00
40Mb Seagate	£180.00
49Mb Seagate	£195.00

### PRINTERS

#### CANON

OUR PRICE

LPB4 Laser Printer	£725.00
LPB83 Laser Printer	£1475.00

#### STAR

LC200	£205.00
LC24/200	£235.00
LC24/200 col	£275.00

For Larger Range of Hewlett Packard, Panasonic and Brother Printers  
Please Ring. All above printers inc PC lead



- Credit card 24 hour facility
- Credit cards not debited until goods despatched
- Offered subject to availability and price change
- Same day despatch on stock items
- Amstrad, Commodore Philips and Olivetti authorised business dealer
- Ring for price list
- Large selection of business software IBM/PC compatibles



## COMMODORE

### Authorised Business Dealer

#### Introducing Starter Pack which includes:

- ★ Mavis Beacon Teaches Typing
- ★ The Secretary Bird Integrated Package
- ★ MS DOS Introduction Disk
- ★ Explanatory Video

12 Month on-site maintenance included in price

#### PC10

	RRP	OUR
DD mono 12"	£499.00	£465.00
DD col 14"	£649.00	£575.00
DD col 14" VGA	£799.00	£699.00

#### PC20

	R.R.P	OUR
HD mono 12"	£699.00	£630.00
HD col 14"	£849.00	£750.00
HD col 14" VGA	£999.00	£849.00

#### PC35

### NEW

With 1 Meg of RAM

	R.R.P	OUR
HD mono VGA	£999.00	£850.00
HD colour VGA	£1199.00	£950.00

### OLIVETTI

Includes:

- Microsoft Works 2
- Collins Bi-Lingual Dictionary
- Euro Letters
- Euro Base
- Euro Tutor
- Euro Tap.

#### PCS 86

	R.R.P	OUR
SD Mono 12"	£549.00	£494.00
DD Mono 12"	£649.00	£584.00
HD Mono 12"	£849.00	£764.00
SD Col 14"	£699.00	£629.00
DD Col 14"	£799.00	£719.00
HD Col 14"	£999.00	£899.00

#### PCS 286

	R.R.P	OUR
DD mono 12"	£949.00	£854.00
20MB HD Mono 12"	£1049.00	£944.00
40MB HD mono 12"	£1149.00	£1034.00
DD col 14"	£1099.00	£989.00
20MB HD col 14"	£1199.00	£1019.00
40MB HD col 14"	£1299.00	£1129.00

#### M290S

	R.R.P	OUR
20MB HDU mono 12"	£1890.00	£1701.00
40MB HDU mono 12"	£2134.00	£1921.00
30MB HDU col 14"	£2265.00	£2089.00
40MB HDU col 14"	£2510.00	£2250.00

A  
R  
R  
A  
N

A  
R  
R  
A  
N

A  
R  
R  
A  
N

A  
R  
R  
A  
N

ANY FURTHER  
INFORMATION  
PLEASE RING  
FOR DETAILS

PC  
SHOWROOM  
NOW OPEN

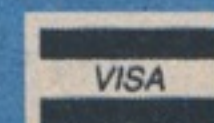


Mail Order Send Cheques/PO to:  
**ARRAN COMPUTERS**

17A-17B LOWER HILLGATE,  
STOCKPORT, SK1 1JQ  
TELEPHONE:

061 480 3975/061 429 8817  
Fax: 061 429 8257

PRICES EXC. VAT  
P&P FREE UK ONLY  
NEXT DAY COURIER  
ADD £5.00





If you are into desktop publishing on your Amiga or Atari ST, a scanner of some kind is a toy you'll love to play with. The best scanners are colour flatbeds, and they cost too much to mention. Colour hand scanners start at around £600. But then colour is not much use to you unless you have a top notch colour printer or you are into colour reproduction, two more expensive hobbies. What the casual or monochrome desktop publisher needs is something cheap and cheerful that does the best possible job for the least possible money.

For a monochrome hand scanner, the GoldenImage JS-105 is at the top end of the price range with a recommended retail price of £277, although I've already seen it being discounted to £199. This £80 discount is important, it made all the difference in the world to my perception of this bit of kit.

The JS-105 is beautifully packaged, which has without a doubt added to its cost, but it also means you shouldn't be frightened of buying it mail order. It comes in a good, solid cardboard box with plenty of foam inside to protect what is a delicate piece of equipment.

### TOUCHING MOMENTS

The software bundled with the scanner – for both the ST and Amiga versions – is *TouchUp*, developed by Migraph Inc in the US. It comes with an impressive 170 page manual. I spent an evening reading this before even installing *TouchUp* on to my hard drive. By the time I had read all there was to read it was 3am. But I couldn't go to bed – *TouchUp* sounded so exciting I simply had to have a play. Now, I have to admit that I'm a sucker for anything that's remotely connected to art, but it's a long time since a piece of software has kept me from my pit. Liz Mitchell gets my vote for Manual Writer of the Year.

*TouchUp* is a black-and-white art package with three sets of tools for painting, clipping and scanning. The first tools you'll want to play with are obviously the scanning ones, it's what you bought the thing for, after all. But first you have to plug in the hardware.

The power supply and scanner cables plug into an interface, which in turn plugs into your parallel port. The scanner itself has 6ft of lead attached, so if space is tight on your computer desk you'll be able to position another flat surface nearby for doing your scanning on.

Scanning is very easy. First you choose settings for the switches on the scanner itself. On the right-hand side there's a wheel for adjusting contrast and a four-way slider for selecting 100, 200, 300 or 400 dots-per-inch scans. On the left-hand side there is another four-way slider for selecting either Text Scan – that's pure black-and-white, no grey tones in between (like text) – or three sizes of grain for scanning photographs or anything else that is more than two colours.

Next come the software switches. You need to tell *TouchUp* whether you want to use the full (4-inches) or half (2-inches) width of the scanner, plus the height of what you are going to scan, which can range from 2-inches to 14-inches. The American developers have

# LOW-COST SCANNING

Jeff Walker samples the new GoldenImage JS-105 image scanner for the Amiga and ST. At less than £200 it could be the best bet there is...

added a Metric button for us Europeans.

A further click on the Scan to Full icon sets the ball rolling. You need to pull the scanner over the picture you want to scan slowly and evenly. If you pull too quickly a small red light on top of the scanner flashes to warn you that you are almost going too fast for it. Slow down slightly and it will stop flashing. If the light goes out, you have gone too fast and data has been lost. It sounds fiddly, but it's not. You soon get the hang of it.

### DOWN TO DETAIL

Once your picture is scanned in there are a lot of things you can do to it. For a start, you've probably scanned in more than you wanted, which is where the clip tools come in. *TouchUp*'s clips are similar to the brushes that paint packages like *DPaint* use. The difference is that you can't pick the clip up and move it around. By drawing a clip box around part of the picture you have scanned you have simply isolated the area inside that box from the rest of the scan.

As well as being able to save the whole scan, you are able to save just the clip area. And you can manipulate the clip area – rotate it, slant it, mirror it, copy it, fill it with a pattern, or attempt an automatic clean-up process which removes stray black and/or white pixels.

*TouchUp* has various zoom facilities, one of which is a negative zoom to show you the whole "page", which can be some 1600x5600 pixels for a full 4-inches x 14-inches scan. You can't see details, but it's usually quite easy to see approximately the area you want to clip.

This ability to work on the reduced page is one of the things which makes *TouchUp* special. For instance, you can re-scale the clip by shift-dragging the handles of the clip box. Or you could use a paint tool to erase the junk you don't want outside the clip area and another paint tool to draw a frame around what's left.

*TouchUp* can save pages and clips in a variety of

monochrome formats – IFF, Encapsulated PostScript Format (EPSF), MacPaint, PCX, TIFF, GIF, Degas, IMG and PrintMaster. You would have thought that if it can save images in all those formats, then it can load images in all those formats. Sadly no. You can't load EPSF, GIF or PCX images. But you can load all the rest, along with TNY and NEO format. Monochrome images will load straight in, colour images must be mapped to black-and-white; you are given the choice of various mapping methods and dithering options – trial and error is the only way through this puzzle, although the manual does an excellent job of describing how colour mapping works.

The paintbox part of *TouchUp* has tools for drawing lines, ellipses and boxes as well as freehand, a selection of 36 fill patterns, a spray can, paint brushes of any shape or size and a zoom facility for touching things up. A special icon allows you to draw Bezier and B-Spline curves, the stuff structured drawings are made of.

### WORTH THE DOUGH?

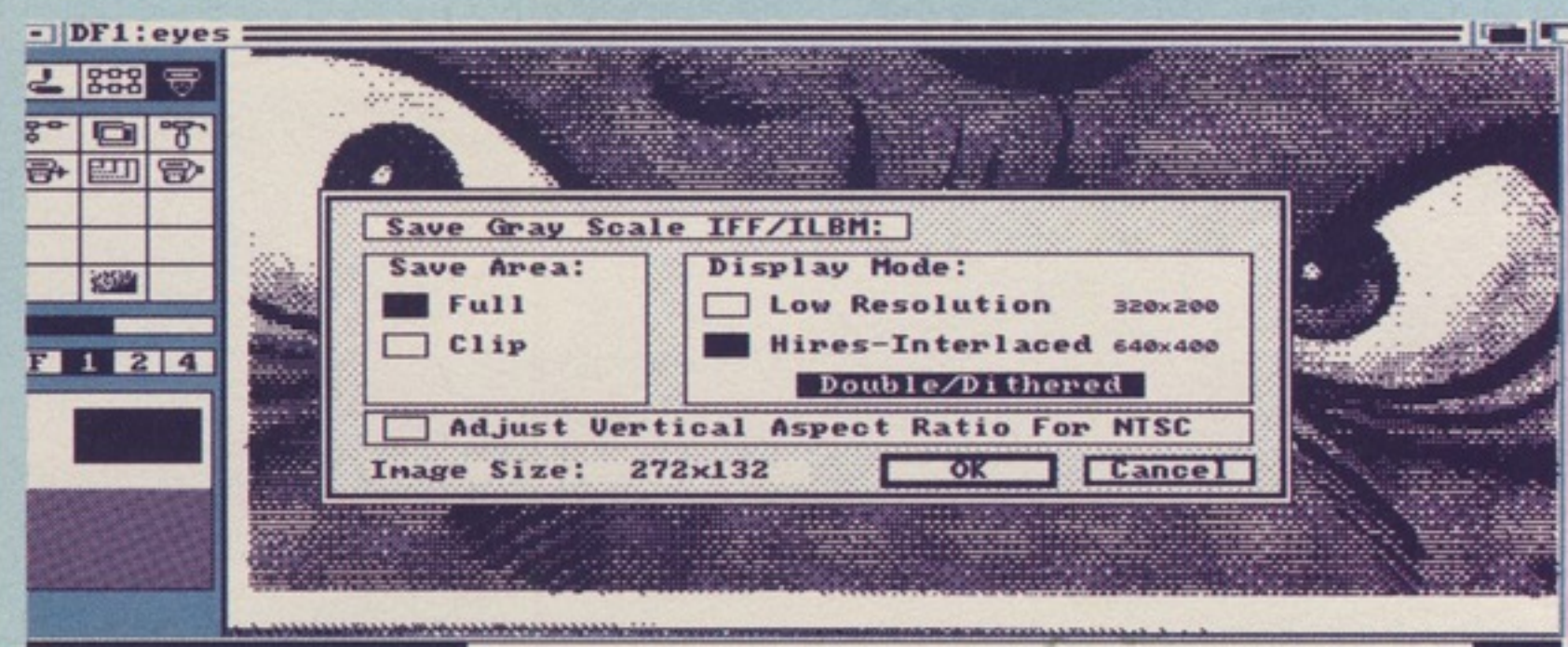
For scanning in black-and-white line drawings, logos and the like, it is a supremely competent tool. It is less competent at scanning colour and greyscale images, but then so is every other monochrome hand scanner. With continual trial and experiment, however, it is possible to get acceptable results – especially from illustrations, as opposed to photographs.

The Amiga software is too wobbly and too slow; you will swear at it often, in between marvelling at some of the things it can do. The ST version, from which the Amiga version was ported, is much more stable and a joy to use. It is the most powerful program I have seen bundled with any Amiga or ST hand scanner. ■

JS-105-1M/2M for the Amiga/Atari ST costs £277 from GoldenImage on 081-518 7373.



• The size of the clip area can be set more accurately from here, and the dots-per-inch information can be adjusted to suit the resolution of your printer.



• Scans can be saved as 16 grey level graphics, after which they can be loaded into your favourite paint program and coloured.



**M**irrorsoft is quietly active again this week, plotting its future grasp on the world of 16-bit, with its two top secret titles which have been bubbling away in the background for a while now. First up is *Mega-lo-Mania*, which is the brainchild of past-masters Sensible Software. It could be described as a global conflict simulation, a planet-in-a-bottle, or a giant ant-farm. Falling into the same class as games like *Populous* and *Sim Earth*, *Mega-lo-Mania* puts you in control of a part of a whole planet. Your objective is simple – get control of the lot.

To do this, you must influence the life on the planet and make the inhabitants fight wars to gain control. There are many different types of species on the planet, though all are basically human. Some are cave-dwellers, with little or no sophisticated tools, while others are high-tech warlords with thermo-nukes and other nasty playthings. You set the thing in motion, and then influence the level of wealth, industrial development and evolution. Before long, you may find that your cavemen have developed weapons and are attacking the non-aligned portion of the world. They may even have gone so far as to have built planes and nukes themselves, but are operating them with the subtlety



# GAMES WEEK

Neil Jackson gives you the low-down on the latest new games, playing tips, cheats and news.

you'd expect from cavemen.

There are three computer opponents which are also struggling to gain control of the world. All are worthy opponents, but some can be cajoled into joining forces with you, thus furthering your chances of success. But in any event, you'll have to destroy all the opponents to win, whether they are allied or not. Mirrorsoft is promising the best-ever sound effects for any computer, with digitised voices and a host of amusing little touches. That's probably why it is earmarking this as a "one or more megabyte only" game. Games Week looks forward to giving this a real test, sometime soon. Mirrorsoft

has yet to announce a firm release date, but it's expected around March/April for the ST, Amiga and PC.

Mirrorsoft's next title looks set to be a hit if the concept is anything to go by. The aptly named *Brat* is a game all



about a small, angelic baby who has something of a personality crisis. Once asleep, the cute little darling undergoes some kind of Jekyll and Hyde transformation and turns into a street-smart roughneck who roams the strange worlds of his dreams looking for trouble. You must guide this weird "Calvin and Hobbes meets Bart Simpson" type kiddy safely through all kinds of danger.

*Brat* features a huge playing area, tons of objects to collect and use, and hazards-a-plenty on the way. In his dreamland, you'll stumble across Toy Town, the Park and Space World, where Brat's true personality will be revealed. Presumably, it's not a nice one!

Mirrorsoft is keen to announce that *Brat* has a unique mode of control, but is keeping quiet as to what it is, exactly. Mirrorsoft reckons, however, that it's radical and makes *Brat*'s playability second-to-none. Games Week will be checking this just as soon as it can get hold of a copy. The release date for this offbeat cyberbaby is set for 24 April on ST and Amiga, at the usual price of £24.99. ■

## TOP 10 SIXTEEN-BIT GAMES

THIS WEEK	LAST WEEK	CHART WEEK	TITLE	PUBLISHER	MACHINE
1	1	3	Lemmings	Psygnosis	AG
2	NE	1	Turrican 2	Anco	ST AG
3	2	12	Speedball 2	Mirrorsoft	ST AG
4	3	5	MiG-29 Fulcrum	Domark	ST AG PC
5	5	26	F-19 Stealth Fighter	Microprose	ST AG PC
6	4	7	Final Whistle	Anco	AG
7	13	13	Powermonger	Electronic Arts	ST AG
8	10	26	Kick Off 2	Anco	ST AG PC
9	18	11	M1 Tank Platoon	Microprose	ST AG PC
10	6	2	Fists of Fury 2	Virgin	ST AG

ST = Atari ST AG = Commodore Amiga PC = IBM PC or compatible OT = Other  
Chart compiled by Gallup. © European Leisure Software Publishers Association.

## CAPTIVE

Amiga and ST

Direct from the horse's mouth, as it were, Games Week presents 25 hot tips for Mindscape's incredible role-playing adventure. Tony Crowther, the man behind the computer, has 25 ways to extend your survival time.

- 1) Always, always, always collect the gold dropped by the aliens. It all comes in handy.
- 2) Open every cupboard you find. They are all there for a purpose, whether good or bad.
- 3) Find the computer for each level, or you won't get the co-ordinates for the next base.
- 4) If the computer's password doesn't work, then it isn't the correct one. Keep searching.
- 5) Doors don't work without power, so make sure they're open before you blow the generators.

- 6) Powerpoints are the same. Tank up with juice before you torch the supply.
- 7) Tool up, repair and refuel before you leave any base. The next shop may be a long way away, and you might not make it if you start out weak.
- 8) Powerpoints make an effective weapon. Put your hand in the socket and fire bolts of pure electricity.
- 9) Characters with high Dexterity hit harder and do more damage.
- 10) Characters with high Vitality are better able to dodge hits, and suffer less.
- 11) Characters with high Wisdom gain more experience.
- 12) Make sure you map out where you go. Getting lost is frustrating and pointless.
- 13) Remember to initiate all the droid chips.

## Just staying alive

- 14) Never leave a base without first obtaining a new planet-probe.
- 15) Throwing heavier objects inflicts more damage than throwing light objects, but you can't pick everything up. Some things are just too heavy.
- 16) Remember to update your skills as you gather more experience. Experience is gained more quickly during the early levels, so put it to good use.
- 17) Save regularly, using a different slot for each save. It is possible to become trapped, by locking yourself in. No save means having to do the whole lot again.
- 18) The very first airlock door won't let you out until the generators have been destroyed.
- 19) Avoid using Tindron heads. They're marginally better-sighted than bats, but not much.
- 20) During battles, you must move or die. Try using the keyboard for faster speed across the floor.
- 21) All the shops stock different items at different prices. Make a note of this as you need to save money to maximise your capabilities.
- 22) Attacking to the side is not as effective as attacking to the rear. The party at the back will attack aliens directly behind them as well as aliens to the left or right. Side-on attacks only attack in that direction.
- 23) Put your party leader at the back. This minimises the risk of someone taking his head off, and you being plunged into darkness.
- 24) Use doors to squash aliens, but stand in the next square to stop the aliens squeezing through to your side of the door.



## NIGHT SHIFT

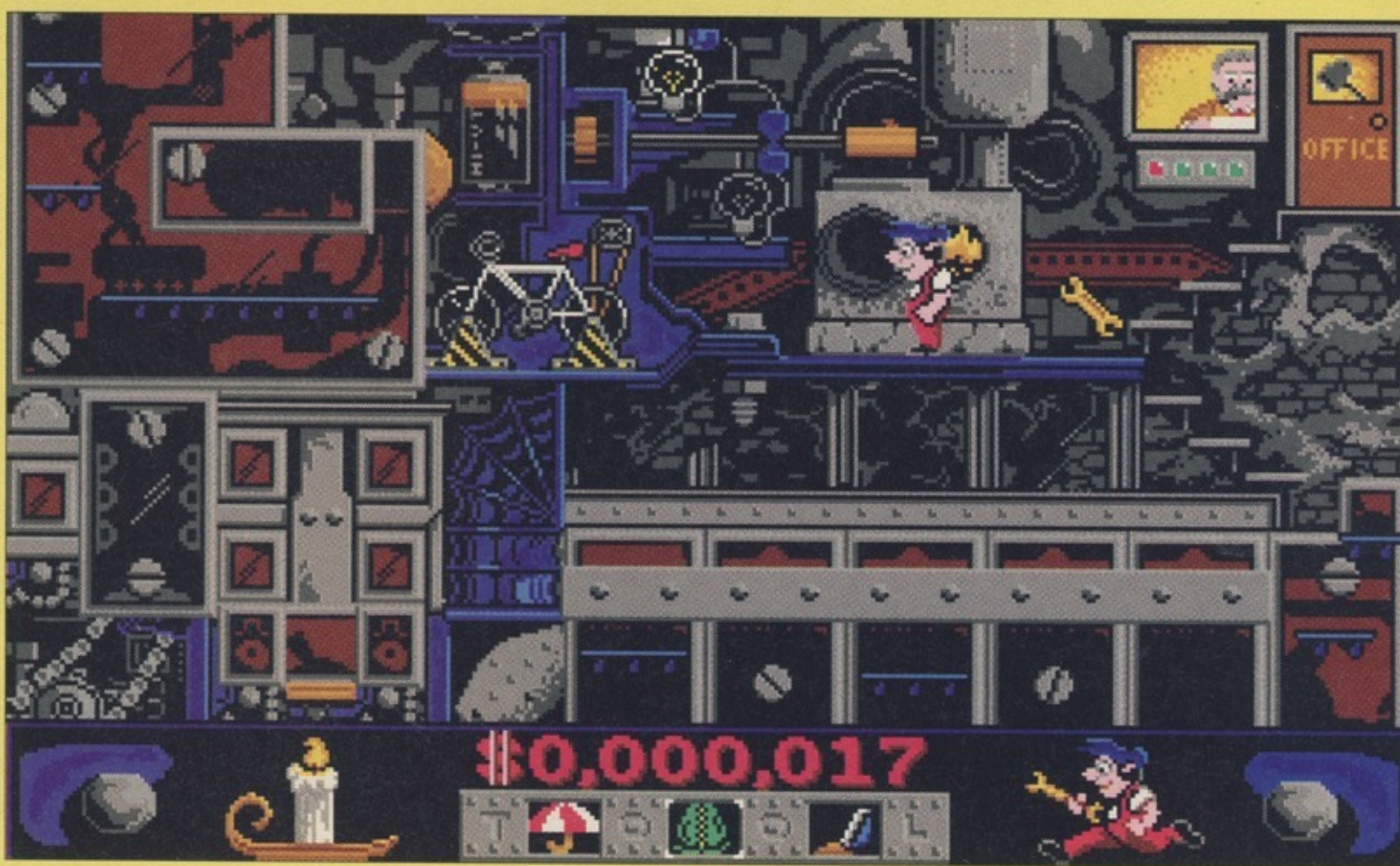
LUCASFILM • AMIGA and ST • £24.99

If you've always dreamed of being the girl (or boy) that makes the ring that holds the oil that oils the spring, etc, then now is your chance. Lucasfilm's has a new thingamabob makes Toshiba look simplistic by comparison. In it, you play the role of Fiona or Fred Fixit – enterprising, but often unemployed folk who have just been hired to work on the BEAST. This scary-sounding monster is the Bingham Environmentally Active Solution for Toys, a huge machine which constructs thousands of injection-moulded plastic toys. It's owned by a company called Industrial Might and Logic, and it manufactures the many millions of small Lucasfilm-inspired dolls and toys. Skywalker dolls and mini-Darth Vaders sit cheek-by-jowl with Indiana Jones figurines and Zak McKracken puppets.

Your job is to tend to the BEAST's various needs, whilst meeting a production target. First you need to get the thing up and running, which involves a lot of leaping around, fixing things. Using a stationary bicycle, you must get power to the generator, and then get the furnace alight, using a match from your toolbox. Then it's up to the very top of the machine to tighten up a loose steam valve with your trusty spanner. After that, you must find the plug for the raw materials dispenser, and give a good kick to get it into its socket. Then (and only then) you may be able to get on with the business of manufacturing.

And that's a different can of worms altogether! As the various models pass along the production line, all kinds of things happen. Some models come out in the wrong colours, conveyor belts route the finished articles to a giant bin, instead of their boxes and Skywalker heads end up on Darth Vader bodies. All this mess has to be

## Beastly work, but great game play



• Nightmare machines, odious bosses and manufacturing mayhem. It all happens on the Night Shift.

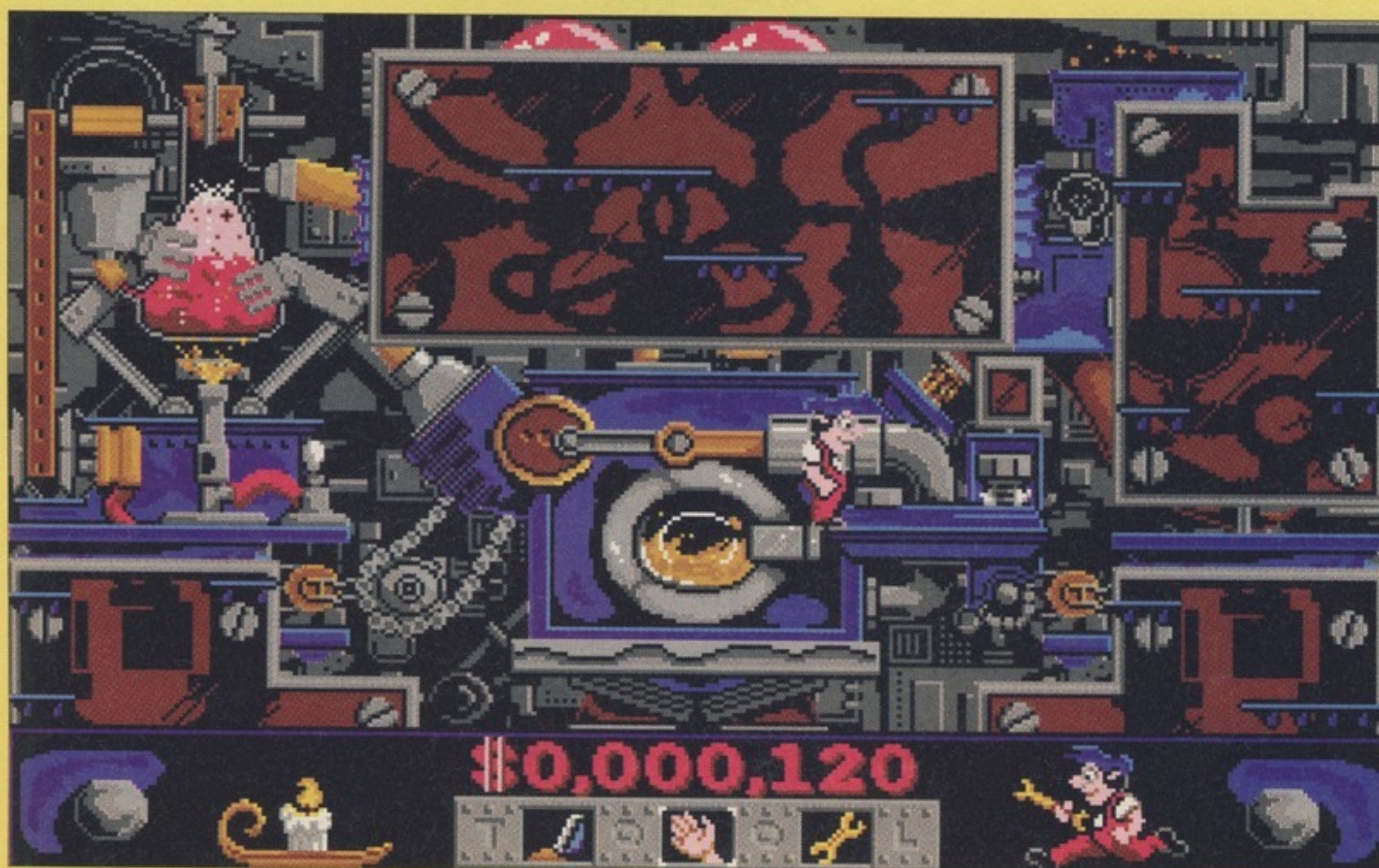
corrected by you, before you get your pay cheque and the rest of the evening off. Louse it up and you'll be going home with your P45 in your pocket!

And if that wasn't enough, there are many other trials and tribulations to give you a hard time. Occasionally, lemmings appear, clamping themselves to your feet the way dogs do when they're particularly pleased to see you. This does not help your mobility (not to mention the state of your shoe-leather) and your only defence is a small Venus fly-trap which you can hide in your toolbox. Deployed in time, these things gobble up small furry creatures and free you again.

Although production is a difficult task, there are several gadgets which aid you, rather than hinder. Umbrellas can be used to float down from the very top of the BEAST at a safe but hasty speed, while balloons help you to reach the top without needing to follow the normal, convoluted path via belts, boilers and boltheads.

Night Shift is undoubtedly a cutie. But that doesn't mean it's just for kids. The colourful, detailed graphics animate beautifully, bringing to life the strange concept of the massive, maddening machine. Sound effects are typically arcade-style, while the background melody adds to the comic feel (though it gets a bit wearing after an hour or so).

Couple this with the excellent introduction and epilogue sequences, showing Fred or Fiona in the boss's office or on their way home, and you have a wonderful game. Even the stock platforms-and-ladders element is so heavily disguised that you don't really think of it being that sort of game. There are some excellent moments of self-parody, which shows that even mega-giants like Lucasfilm can afford to poke fun at itself and get away with it. A healthy, non-violent (most of the time), taxing and yet still fun game, that's too good to miss.



• High up, near the top of the BEAST, Fred Fixit stares dumbly at the leaky steam valve. Time for the toolbox, yet again. A Nightshifter's work is never done!





# 40,000 Exclusive Members Packs

Enter into a Futuristics Computer Maniacs World!!!

## Members Pack

- Members Plastic Card
- Computer Facts & Information Book, includes Dictionary
- Starter disk which includes various software
- Security stickers for theft prevention of your computer 5 in pack
- All this just a starter pack, now for the best part which all our members love!

## FREE Software

- Most of our demo's, utilities, etc.. are free to all members. Why pay?
- Its Simply FREE from the worlds No1 Computer Maniacs Club.

## FREE for 1 Year

- Members will receive booklets, How to Make £££ booklet, leaflets, competitions every month for 1 whole year - membership

## FREE Colour Posters

- Futuristic Styled Colour Posters FREE throughout the year! Which can be framed easily

## Music - Maniacs!

- Want to get into music, we have booklets etc... to give free to members plus list of recording companies for those who wish to send their demos to earn some £££... Plus connect up to sound systems - DJs

## Wizard Programmers

- We'll try to help you out with our manuals - FREE. Plus best programming every month competition with expensive prizes!

## New offices of Syncrosoft® HSG Group

9-10 Morland Gardens, Southall, Middlesex, UB1 3DY.

Tel: 081 571 1852

## Your Members Plastic Card

- This card must never be lost!
- Prizes cannot be awarded without it
- At computer show, if we see you there you'll get prizes like joysticks etc...
- Cannot be used by anyone else because we have entered your name in our Data base Computer
- £15.00 to replace if lost!!!

## Important Notice!!!

- Please note we already have 1000's of members and are giving away 40,000 memberships at £5.00 only which will just cover half of the postage & packaging for each member throughout the year.

**Why?** This is to celebrate our new 2 large offices to offer you the members more products in your membership & become the Worlds No1

**CELEBRATION FREEBIE!** 5000 VERY EXCLUSIVE MUSIC T-SHIRTS TO THE FIRST 5000 ONLY

NORMAL MEMBERS FEE £25.00 PER YEAR which will be set back to normal on April 20th

## OFFER ENDS ON APRIL 20th

BAD NEWS! we know there's more than 60,000 readers but we are only allowed 40,000 by our Group

**Only One Pack Per Member Please!**

Please Print full name and address and enclose payment for £5 made payable to Syncrosoft by Cheque/P.O. send to Syncrosoft Freepost, Southall, Middlesex UB1 3BR. (No stamp required in UK) Please state - Atari / Amiga Computer

**Please Allow Up To 14 Days For Delivery**

# For Atari + Amiga

## FAMICOM

Famicom Pal + 2 Joy pads  
+ 2 Free Games .....299.00  
Bomb Buzal.....39.00  
F-Zero.....43.00  
Final Flight.....48.00  
Gradius III .....48.00  
Pilot Wings .....48.00  
Populus .....48.00  
Sim City .....CALL  
Super Mario World .....43.00  
Hole in One Golf .....48.00  
R-Type II .....CALL  
SD The Great Battle.....43.00

## LYNX

Lynx console + power supply  
+ California games .....117.00  
Blue Lightning, Electrocop,  
Klex, MS. Pac-Man, Paperboy,  
Rampage, Roadblasters, Robo  
Squash, Rygar, Slime World,  
Xenophobe, Zarlur Mercenary.  
All Above Games.....27.00  
Lighter Power Adaptor ....11.95

# K's

## S Computer Emporium

37 Pinfold Gate, Loughborough

Leics, LE11 1SG

TEL: (0509) 211799 FAX: (0509) 881600

Open 9.30am to 6.30pm Everyday Except Sunday

## SEGA GAME GEAR

Baseball 91 .....24.00  
Dragon Crystal.....28.00  
G-Loc .....24.00  
Junction .....24.00  
Pengo .....24.00  
Psychic World .....24.00  
Sega Gamegear .....99.95  
Sega Gamegear,  
and 3 games .....159.95  
Super Monaco .....24.00

**We also buy and part exchange used cartridges. Many more items for other consoles and computers in stock please phone for more details and ask for ADAM or PETE, or call in to the shop.**

## GAMEBOY

Gameboy + game .....59.00  
Gamelight.....9.99  
Game Pack Carry case.....7.99  
Hard Carry case .....9.99  
Light Boy .....19.99  
AfterBurst .....24.00  
Batman .....28.00  
Boxing.....19.00  
Boulder Dash .....24.00  
Bugs Bunny .....28.00  
Dragon Man .....24.00  
Ghostbusters II .....28.00  
Mickey Mouse.....24.00  
Paperboy.....24.00  
Pinball.....24.00  
Robocop .....28.00  
Solar Striker .....19.00  
Soccer Boy .....24.00  
Spiderman .....24.00  
T.M.N. Turtles .....24.00  
Wrestling.....24.00  
Zoids .....24.00

## MEGADRIVE

UK Megadrive + Joypad...184.95  
JPN Megadrive &  
£33 game .....149.95  
JPN Game Adaptor.....14.00  
Arcade Power Stick.....39.00  
Scart Lead .....15.00  
Stereo Lead.....8.95  
A. Palmers Tournament Golf ..33.00  
Aero Blasters .....38.00  
Alestra Mushsa .....33.00  
Battle of Bahama.....34.00  
Battle Squadron .....38.00  
Curse .....19.00  
Dangerous Seed .....33.00  
Darius II.....33.00  
DJ Boy .....19.00  
Elemental Master .....28.00  
Fatman .....28.00  
Forgotten Worlds .....33.00  
Gaiares .....38.00  
Ghostbusters.....33.00  
Granada X .....38.00  
Gynoug .....38.00  
Hard Drivin .....33.00  
Heavy Unit.....38.00  
Hell Fire .....19.00  
Herzog Zwei UK .....33.00  
Italia 90 .....33.00  
Insector X.....33.00  
J. Madden  
American Football.....38.00  
Joe Montana Football .....38.00  
Junction .....28.00  
Ka Ge Ki .....38.00  
Klax .....23.00  
Magical Hat.....28.00  
Mickey Mouse .....24.00  
Ringside Angels .....33.00  
Same Same Same .....26.00  
Shadow Dancer.....33.00  
Stider .....33.00  
Super League Baseball.....33.00  
Super Monaco GP .....33.00  
Super Real Basketball .....33.00  
Sword of Sodan .....38.00  
Sword of Vermillion US .....37.00  
Technocop .....38.00  
Thunder Force II .....37.00  
Tampoline Terror .....38.00

Whip Rush .....19.00  
Volfield .....38.00

## NINTENDO

Nintendo Action Set .....99.00  
New Advantage.....37.00  
Nes Max Turbo .....28.00  
Python 2 Joystick.....9.99  
Cart Cleaning Kit .....9.99  
Bayon Billy .....37.00  
Black Manta .....35.00  
Double Dragon .....37.00  
Double Dragon II .....37.00  
Mega Man II.....38.00  
Paperboy.....38.00  
Pinbot .....37.00  
Probotector .....37.00  
Snake Rattle Roll.....37.00  
Solar Jetman.....38.00  
Stealth ATF .....37.00  
Super Mario II .....38.00  
Super Off Road.....37.00  
World Wrestling .....37.00

**Call for all second hand Swaps and Games**

## PC ENGINE

PC GT Hand Held  
& Free Game .....285.00  
Core Grafix and Bloody Wolf.159.95  
5 player adpt.....24.95  
XE8 Joystick.....29.95  
Afterburner II.....35.00  
Chase HQ .....35.00  
Cyber Core .....35.00  
Devil Crush.....38.00  
Golf.....35.00  
Heavy Unit.....35.00  
Mr. Heli.....35.00  
New Zealand Story.....35.00  
Operation Wolf .....35.00  
Powerdrift .....35.00  
Psychic Chaser.....35.00  
Rabio Lepus.....38.00  
Splatterhouse.....35.00  
Space Harrier .....35.00  
St Dragon .....35.00  
Wonderboy In Mons.....35.00  
W-wing .....35.00

Name .....	
Address .....	
Post Code .....	Tel .....
Item .....	Cost
£ .....	
£ .....	
£ .....	
£ .....	
Add £1 per order	Sub Total £ .....
plus £5 per console for p+p	Total £ .....
Expiry Date .....	CE CHEQUE/P.O./ ACCESS/VISA/ MASTER CARD
Signature .....	



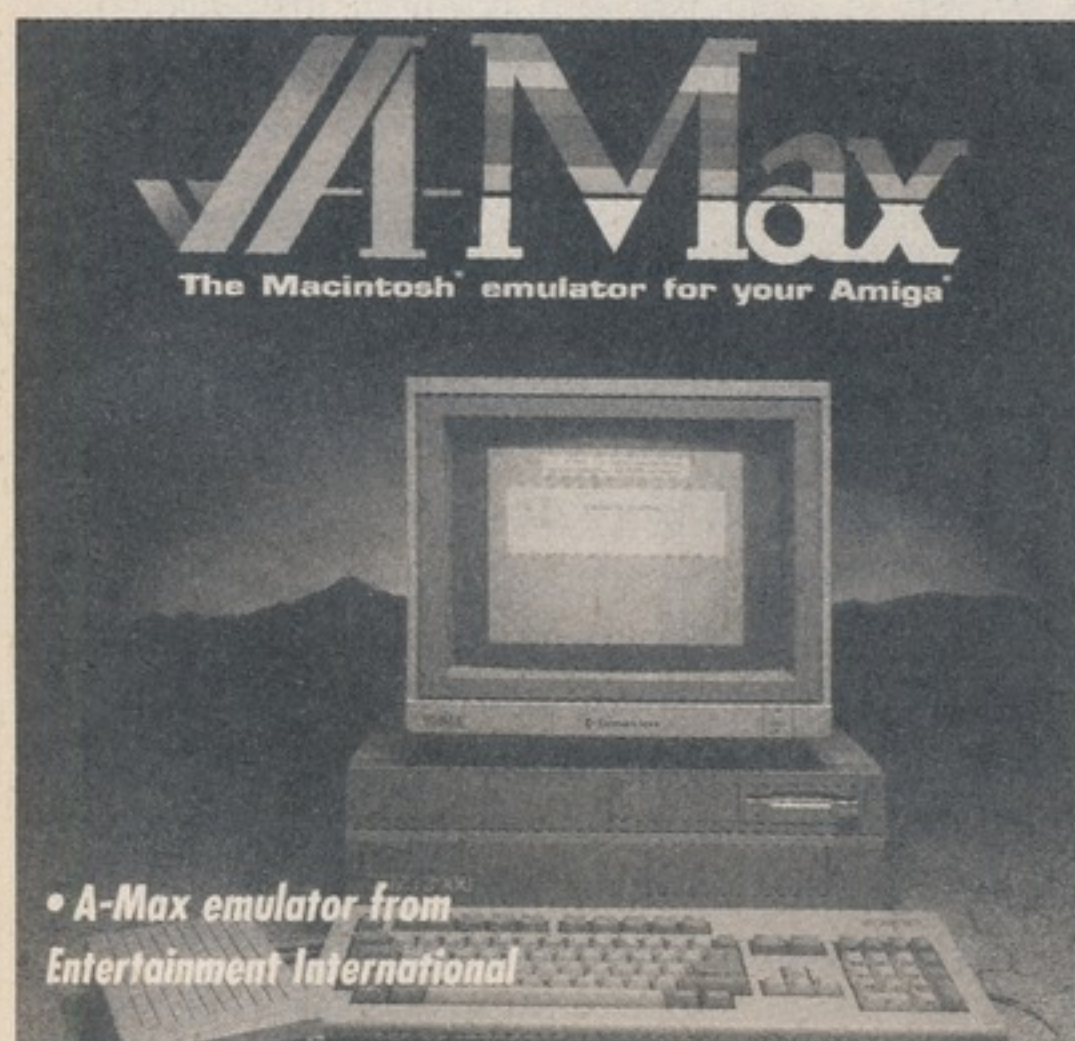
# AMIGA EMULATES



**When's an Amiga not an Amiga? When it's pretending to be something else. Damien Noonan looks at how the Amiga can be even more versatile.**

**T**he Amiga is a versatile machine, sure enough – but did you realise it is so versatile that it can pretend to be a whole heap of other things? All you need is the right kind of hardware or software. In some cases this means an 'emulator', which allows the Amiga to pretend it is another kind of computer. In other cases it's a clever bit of electronics that allows your Amiga to do something you wouldn't expect it to be able to. So when is an Amiga not an Amiga? When it's...

## A MACINTOSH



One of the most impressive and most popular of all the emulators is A-Max from Entertainment International. It allows your Amiga to pretend it's an Apple Macintosh and to run Mac software. Macs are a good deal more expensive than Amigas, feature an extremely easy-to-use WIMP system for running programs and a great deal of very high-quality software, especially for Desktop Publishing and graphics.

There are three main drawbacks to A-Max. First, to emulate the Mac's very high-resolution monochrome screen display A-Max runs in Interlace mode, which flickers like crazy and can be unpleasant to use. Second, to use A-Max you must get hold of an Apple Mac ROM chip and operating system disk, which is not at all easy (although you can now buy A-Max with the necessary chip) and is of dubious legality. Third, A-Max cannot run all Mac software: the protection systems of some mean they won't run on the Amiga.

The latest version of A-Max comes in two different forms: A-Max 2 and A-Max 2 Plus. The latter is a hard card variation to plug inside the Amiga 2000 and includes several enhancements over the basic unit, which is a grey box that plugs into the back of the Amiga. The new A-Max 2 has the great advantage of

hard drive support – anyone who has used a Macintosh will tell you that it really needs a hard drive to be viable. The original A-Max costs £134 without Mac ROM, A-Max 2 is £169.95 without ROM, £269.95 with and A-Max 2 Plus will cost £249.95 without or £349.95 with. Telephone Entertainment International 0268 541126.

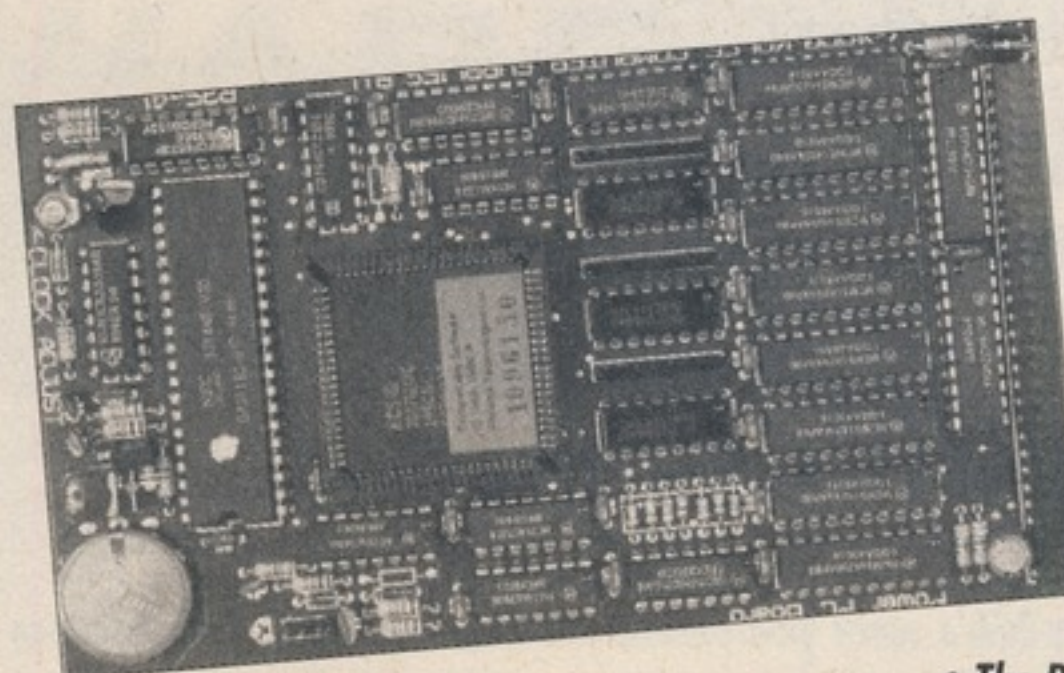
## ...OR A PC

The industry standard set by the IBM PC and compatibles is the most useful to be able to tap into. One way to do this is enable your Amiga disk drives to read and write PC disks so that you can transfer files to and from PCs and Amigas – and also, incidentally, to and from more the modern Macs. The best way to do this is with a utility called CrossDOS, which runs as a background task enabling you to save out of your favourite programs straight to a PC disk. All you have to do is specify your drive as, say, pc0: rather than df0: when telling the Amiga where to save to. CrossDOS is 100 per cent efficient and foolproof. It costs a mere £29.99 from Power on 0234 273000.

The other way to tap into the PC pool is to buy a hardware-based PC emulator. These are more or less a PC on a PCB and are available both for the Amiga 2000 and the 500.

The 2000 version is the famous Bridgeboard, manufactured by Commodore, which slots into the 2000 internally and comes in many different PC varieties. It is excellent, but expensive, costing a four-figure sum which is actually in excess of the price of a cheaper PC.

There are two Amiga 500 PC cards, both of which slot into the 'trapdoor' underneath the Amiga 500. Slightly the older is the PC Powerboard, made by KCS in Holland and sold over here by Bitcon (88 Bewick Rd, Gateshead NE8 1RS) at a price of £299 which includes handy extras like MS-DOS v4 and PC GWBasic. The other is the Vortex AtOnce board which emulates a PC-AT and is available from Silica (081-309 1111) at a price of £199, though the MS-DOS operating system will cost an extra £50.



• The PC Powerboard made by KCS.

## WHEN IT'S A BBC MICRO

The BBC Emulator is a software-only emulator that enables the Amiga to run a large amount of BBC software. It was originally conceived as part of Commodore's strategy to take over the market that was being conceded by Acorn's ageing 8-bit machine, particularly in primary schools. It is an excellent idea because much of the educational software written for the Beeb is very good indeed.

The Emulator works well, but because it only works with legal 6502 programs it will not necessarily run all BBC software, particularly games. It is available from Commodore (0628 770088) or as part of the Class of the 90s educational pack. The newest version has just been released by GeniSoft (0753 680363) for £29.99.

## OR EVEN A SPECTRUM!

Yes, believe it or not, there is a Spectrum emulator for the Amiga. And it doesn't run as fast as a real Spectrum unless you run everything in mono. Sound pointless? Well, not entirely. It includes a special interface which enables you to load Spectrum programs straight from tape and save them out to Amiga disk, so if you used to own a Speccy and would hate to bin all those 8-bit classics, it could be handy. Only problem is we do not currently know of a UK supplier – the unit is manufactured by Digimail SRL of Milan, Italy on 39 02 426559.

## A DIFFERENT AMIGA...

No, not an Amiga emulator for the Amiga. This is a new kind of Amiga that even Commodore has very little to do with. Checkmate's A1500 is basically a recase of the A500 with a separate keyboard and a nice, compact box for the CPU and internal disk drives. Apart from the fact that it looks a sight smarter, the recase has a couple of advantages. The case is sturdy metal and puts the joystick ports and disk drives (yes, there is space for two internal disk drives) at the front. It includes room internally for genlock or MIDI interface cards, as well as allowing for expansion units to contain other cards. The A1500 can be bought as a kit so you can fit your own A500 into it, or you can send your computer off and they will convert it for about £200. Phone 081-923 0658.

## A FAX MACHINE

Fax machines – for the uninitiated, gadgets that transmit pictures down the phone line and print them out at the other end – are becoming an increasingly large part of modern telecommunications. They're dead handy, but very expensive so not many people have them in their own homes.

Fast FAX from Microdeal allows you to turn your Amiga into a full-featured Fax machine for the relatively low price of £699. This may sound like an awful lot of money, but if you run a small business based around Amigas it could prove a good alternative to buying a separate Fax machine. You can buy Faxes a fair bit cheaper, but not with the range of features that Fast FAX offers. Manufacturer Microdeal is on 0726 68020.

## A TELETXT TELEVISION!

Microtext is an adaptor unit that plugs into the back of the Amiga and allows it to receive Teletext signals from the BBC's Ceefax and ITV's Oracle services. It also comes with an added bonus – to receive the Teletext signals, which are in with the ordinary TV signals of the respective broadcasting companies, it also has to act as a TV tuner. So all you have to do is plug the unit in, attach a TV aerial to the back and you have an Amiga TV. The software lets you store and print pages and it would be possible, for instance, for it to print out a regular TV schedule every day and when you get home from work, there it is waiting for you. Good stuff and, considering it can replace a television, a bargain at £143.50. Available from Microtext on 0705 595694. ■



Depending on how heavily you want to get involved with programming, there are a variety of different languages to choose from. BASIC is the easiest to learn and use but it's also one of the slowest – not much use for games. Assembly is the professional programmers' choice since it's the internal language used by your ST. Each language has its own advantages and aficionados. Here is the pick of the crop across several different fields.

BASIC is most popular programming language and unfairly maligned by those who haven't used modern versions. Its advantages are its friendliness to the first time user, its interactivity and its forgiving nature with errors. Super modern versions of BASIC can be very good – often having compilers and structures like procedures borrowed from 'better' languages. BASIC is a good all-rounder.

The second most popular language, C, claims to offer near machine-code speed without the complexity of low-level programming. C can be a little hard to understand at first, as its source code is not as self-explanatory as more verbose languages. The structure of the language, though, enables you to do almost anything you like with the machine. Obscure bugs can produce the strangest effects in C programs.

Pascal produces very readable source programs; it also majors on rigid constraints to make you write 'good' code. Pascal is only available as a compiler and is good if you like a language to check what you're doing. It is happy to throw up all kinds of error messages during compilation to let you know of syntax and program errors before you get near to running the code. Pascal is particularly good for writing long programs, as its imposed structure makes the source code maintainable. Its string handling is not as advanced as BASIC's, nor is its machine access as good as C's.

Assembler – because compilers generate machine code by set formulas, high-level language programs are rarely as fast as if you write them directly in Assembler yourself. Assembler is hard to write because it takes you 10,000 lines to do what 1,000 lines of C would do, and any mistakes usually cause an instant machine crash! If you need really fast code, most languages let you write the critical routine in assembler and leave the rest in C or whatever.

### PROGRAMMING IN C

**Hisoft C Interpreter • £49.95 • 0525 718181 • All STs**

This is one of few C interpreters which actually assumes you know little about programming in C. The software is aimed specifically at BASIC programmers who are looking to move up to C.

This is an excellent interpreter for the newcomer, enabling you to carefully watch your code using trace options so that you can see exactly where it went wrong and why. There's even the ability to dump each line of code to the printer once it's been executed. On top of this, it checks all point assignments and trap exceptions to avoid any crashes. The interpreter is supplied with a 470-function library of commands and is a very close implementation of the ANSI standard.

Hisoft also includes a 250 page manual to lead you into the complexities of programming in C. If that's not enough, there's an on-line help feature which displays text files to guide you through the harder operations.

### ASSEMBLY

**DEVPAC 2 • £59.95 • All STs • HiSoft • 0525 718181**

Devpac ST is a fast assembly language development system. It includes all the various parts necessary for developing machine code programs, including a macro assembler, editor and linker. Features may be accessed by using conventional menus or by key shortcuts.

The debugger, which is accessed via the editor, enables you to examine programs and memory, exe-

# ST SPEAKS FOR ITSELF

Fed up with the features offered by your favourite word processor, graphics package or game? Mark Higham looks at the programming languages which could bring your ST a new lease of life.

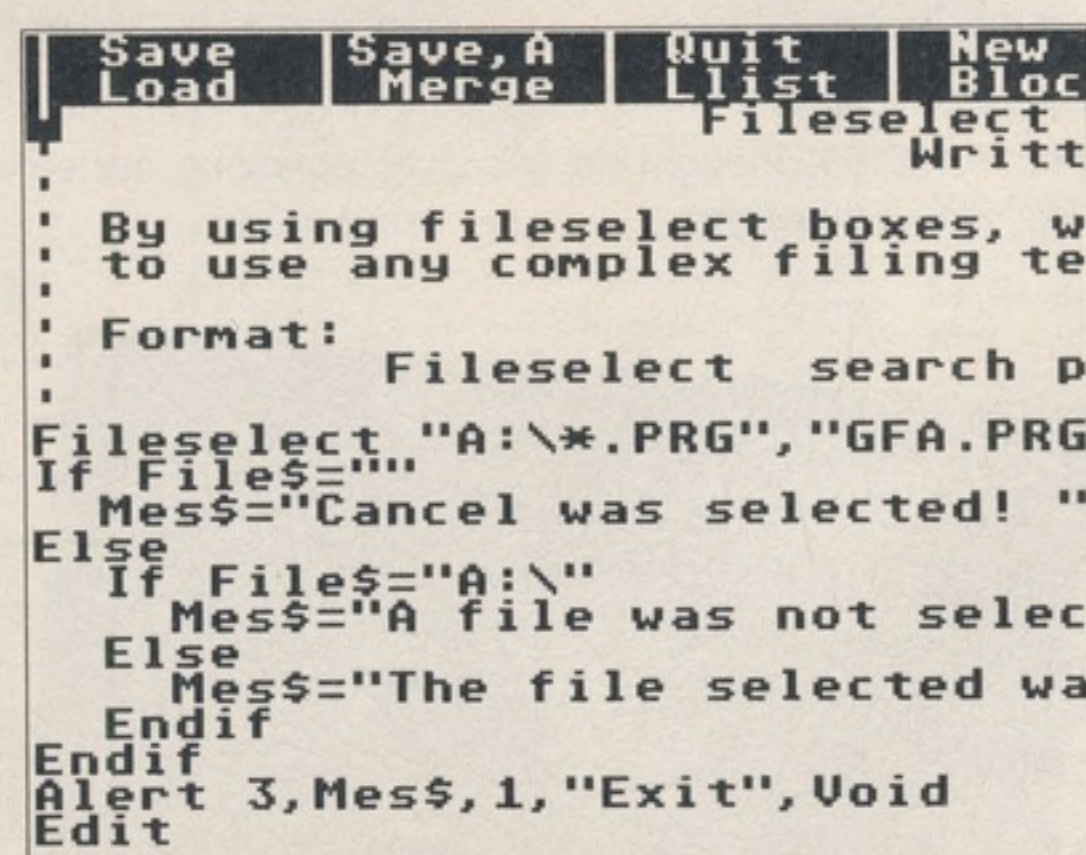
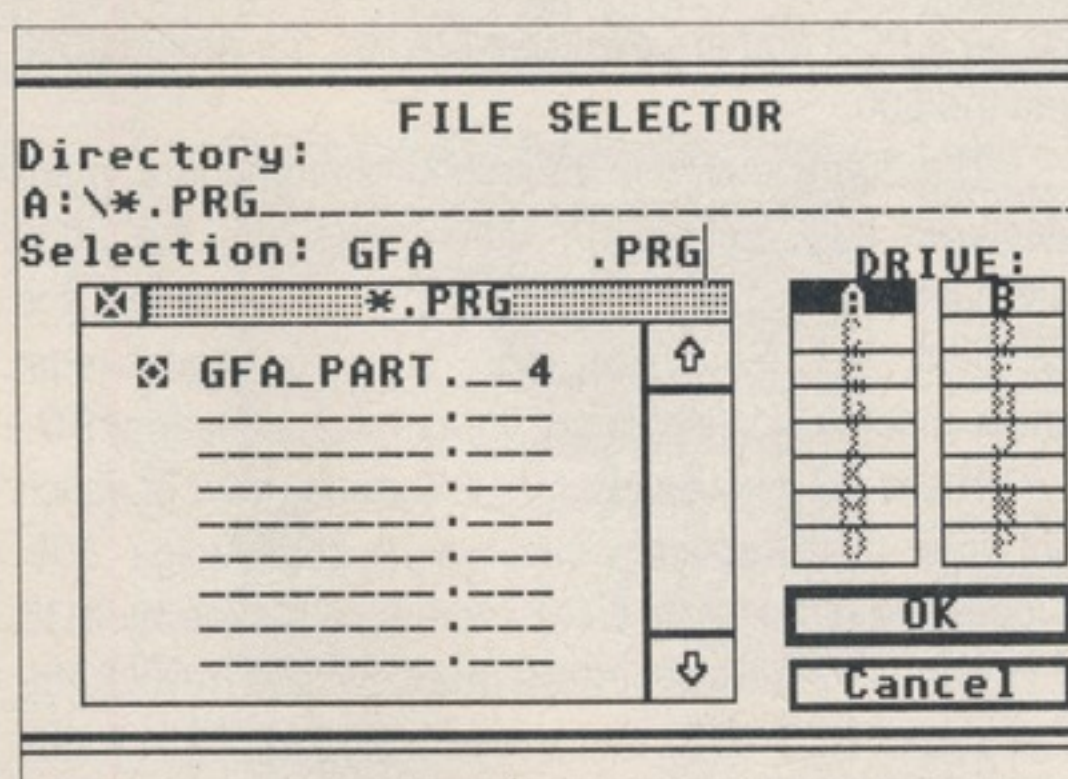


cute instructions one at a time and trap processor exceptions. Although the debugger is of the low-level variety, displaying such things as 68000 instructions and bytes of memory, it can be used for debugging programs written with any compiler that generates machine code. If the compiler or assembler has the option to dump the symbols into the binary code, then you see procedure and function names with the code. You're even able to view your original source code. For really huge programs, symbolic debugging is a luxury.

Fast assembly speed, powerful directives for optimising code, extensive conditional assembly options, symbolic debugging... Devpac 2 has it all plus a lot more. It is packed with features and has all machine code program developers could want.

### BASICS

**GFA BASIC 3 • £64.95 • Glentop • All STs**



• GFA's work environment: editing, bug-fixing and execution can all be done from the same place. The editor (in action) checks syntax and formats the program lines.

After seeing Computer Concept's Fast BASIC, Glentop responded by importing GFA BASIC from the land that produced 'Vorsprung durch Technik'. Updated versions have been drifting in ever since and version 3 is much more than a slight improvement with greater speed, more commands, bigger and better manual and an enhanced editor.

GFA is crammed with powerful instructions that often replace groups of commands from other dialects of BASIC. For instance, GET and PUT enable software sprites to be manipulated effortlessly, POLYLINE and POLYFILL help you draw pattern-filled shapes quickly, menu bars and windows can be set up and interrogated with OPENW and ON MENU GOSUB.

Traditionally, speed – or lack of it – has been the reason for programmers choosing languages other than BASIC to create games and business utilities. GFA gives the lie to this for many operations, as it is faster than a good few compiled high-level languages. GFA's wealth of variable types (boolean, byte, word, integer, float and string), memory management and sophisticated instructions make sure that it is always one of the fastest programming languages around.

### PASCAL

**Prospero Pascal • Prospero • £99.99 • 081-741 8531 • All STs**

There are very few Pascal compilers on the ST, but this is one of the better ones. Prospero's programming shell comes with its own text editor which is particularly easy to get to grips with.

Contained in the program is Prolib – a librarian utility used to manage object files. New files are formed by combining old ones and useful information about files is extracted. A handy cross-reference utility is supplied as part of the deal and this lists where variables are used in the code. A symbolic debugging tool is also available and this enables you to track programs and look at the contents of memory.

The compiler is excellent and can be set to accept standard Pascal only if you're using it for coursework. There are extensive enhancements to the Pascal language which make it easier to use. The compiler library has bindings so that you can access the ST's internals. The compiler comes with a good library of bindings. The manual is disorganised and badly laid out, but there are two excellent manuals devoted to GEM which go a long way towards making up for them. With an integrated editor, this is the best Pascal package on the market. ■



**YOUR ONE STOP SHOP**  
**MORE SOFTWARE THAN YOU CAN**  
**HANDLE!**  
**MORE HARDWARE THAN YOU CAN**  
**USE!**

## AMIGA MEGAPACK

**THE 1 MEG AMIGA pack**  
 Exclusive to *Software Superstore*  
**Limited Offer**

◆ Amiga A500 (Inc workbench, mouse, PSU & manuals)	<b>WORTH</b> 399.99
◆ TV Modulator	29.99
◆ Astra Pack Software	224.50
◆ 1 Meg Memory upgrade + clock	39.99
◆ Drive Head Cleaner	4.99
◆ De-Luxe Dust Cover	4.99
◆ Mouse mat	3.99
◆ Lockable disk box (80)	9.99
◆ Zip Stik Auto fire Joystick	14.99
◆ 10 disks full of Amazing 1 meg Demos	20.00
◆ Free Holiday accommodation	

**TOTAL £753.42**

**OUR PRICE £399.99** Add £10 for  
 Courier delivery

**FREE with 1Meg AMIGA**

**Amazing ASTRA PACK**  
**Ten superb games - all**  
**received rave reviews -**  
**from 70% - 95%**

◆ Datastorm	£19.95
◆ Dungeon Quest	£24.95
◆ E-Motion	£19.95
◆ Grand Monster Slam	£19.95
◆ Kid Gloves	£24.95
◆ Powerplay	£19.95
◆ RVF Honda	£24.95
◆ Shufflepuck Cafe	£19.95
◆ Soccer	£24.95
◆ Tower of Babel	£24.95

**TOTAL RETAIL VALUE £224.50**

**NEW**

## CUMANA AMIGA DRIVES

**the BEST NAME in Disk Drives**

- **Legendary Quality**
  - **Great Styling**
  - **Total Compatibility**
  - **Fully Guaranteed**
  - **Outstanding Spec**
- NOW Only £64.99**  
 Carriage & insurance £2.00

## MEGADRIVE

**+ 2 Great Games - STRIDER & E-SWAT**

**Latest titles : ie Mickey Mouse £29.99**

## AMIGA 512K MEMORY UPGRADE

- \* Brings your Amiga up to 1 Meg in seconds.
- \* Easy to fit - DOES NOT INVALIDATE YOUR GUARANTEE.
- \* RELIABLE, fast, high quality chips on a robust through plated P.C.B. Do not confuse with cheaper, inferior products.
- \* Disable switch

**ONLY £34.99** +£2 Postage

**OR WITH CLOCK/CALENDAR**

**ONLY £39.99** +£2 Postage

### PRINTERS

All Printers Carriage FREE

**star LC10**

"Best Buy" budget printer.

**Only £169.99**

**star LC24 - 200**

**Only £259.99**

### NEW COLOUR PRINTERS

**star LC200**

**Only £219.99**

**star LC24 - 200**

**Only £329.99**

**EVERYTHING**  
 you could  
 possibly need  
 for your  
**AMIGA**

### Blank Disks

We sell only the  
 highest quality  
 blank media 100%  
 certified and made  
 in Japan. Each disk  
 is guaranteed for  
 life.

**Unbranded  
 BULK PRICES**

50 .....	£19.99
100 .....	£37.99
10 with box (40)	£9.99
10 with box (80)	£12.99

Add £2 postage per order

**SEGA**



**£179.99**

**Carriage FREE**

**SOFTWARE  
 SUPERSTORE**

#### STOKE-ON-TRENT

11 MARKET SQUARE ARCADE,  
 HANLEY, STOKE ON TRENT  
 MANAGER: ADRIAN  
 TEL: 0782 268620  
 OPEN 6 DAYS

#### SHEFFIELD

6 WAINGATE,  
 MANAGER: MARK  
 TEL: 0742 721906  
 OPEN 6 DAYS

#### ST HELENS

27 BALDWIN STREET,  
 MANAGER: ADRIAN  
 TEL: 0744 27941  
 CLOSED THURSDAY

#### STOCKPORT

6 MEALHOUSE BROW,  
 (OFF LITTLE UNDERBANK),  
 MANAGER: RAY  
 TEL: 061 480 2693  
 OPEN 6 DAYS

#### WARRINGTON

THE COURTYARD  
 50 HORSEMARKET ST  
 TEL: 0925 232047  
 OPEN 6 DAYS

#### Bolton

**Shipgates  
 Shopping Centre**

**Order HOTLINE (0782)204639**

**MAIL  
 ORDER**

Unit 7a Oldham St  
 Hanley  
 Stoke on Trent  
 ST1 3EY

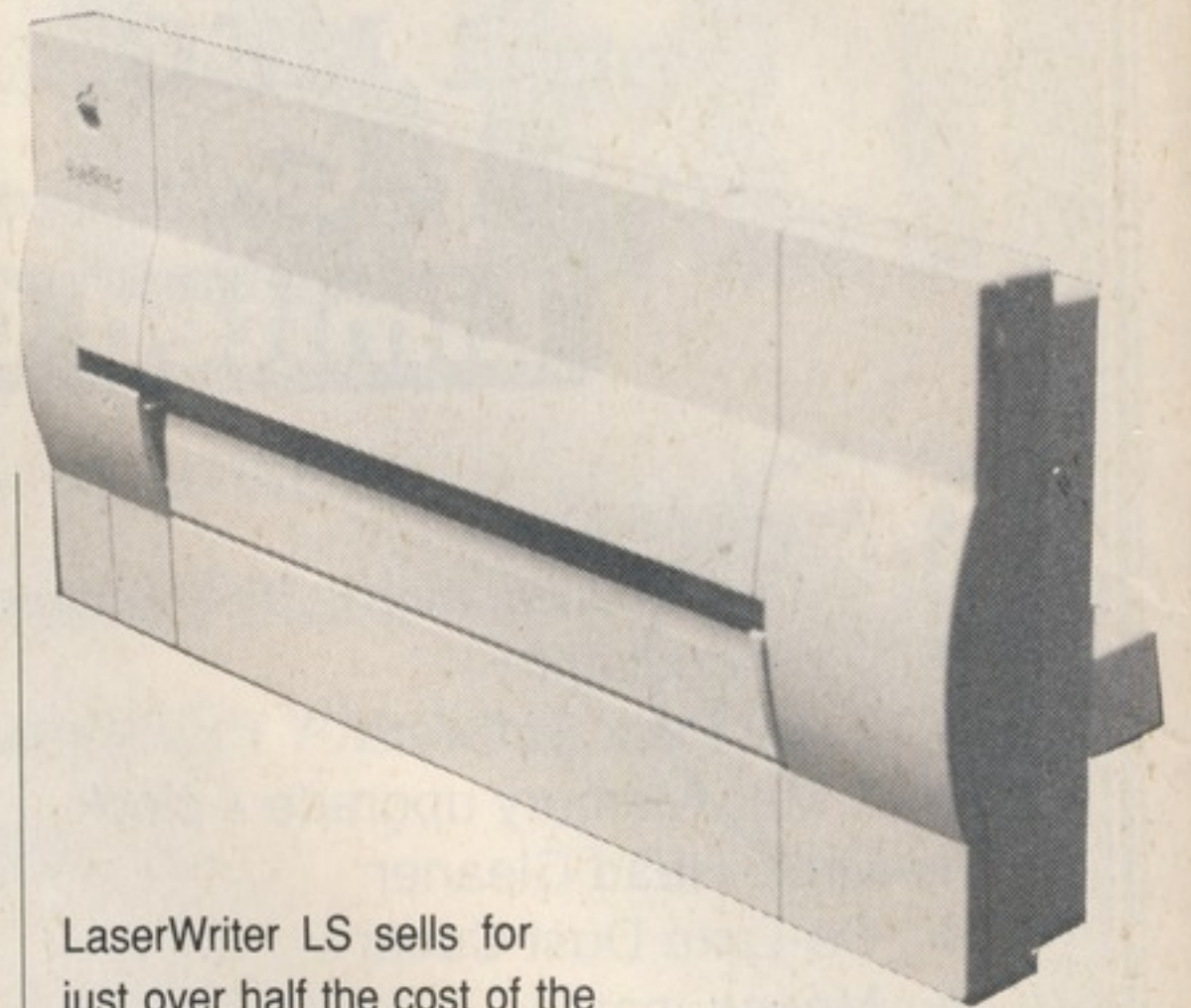
VISA

Access



# PRINTERS MADE PERFECT

Laser quality on every desktop. That's what Apple is aiming for, but has it got there? Ian Wrigley tests two new printers just released onto the market and sees how they compare with what's already there.



**O**n March 11, Apple finally silenced the rumours about a possible low-cost printer by launching two new machines; and the company has surpassed itself both by producing the printers at extremely low costs, and by including TrueType, the company's new font technology, well in advance of its expected release date later this year.

The two new printers are the Personal LaserWriter LS, a laser printer which will sell for around £920, and the StyleWriter, Apple's first venture into bubblejet technology, which is expected to be available around £345.

According to Apple, the printers have been produced in order to "put laser quality on every desktop." And it is an aim which the company seems to have achieved: the 360 dots per inch StyleWriter produces a quality of text output which is virtually indistinguishable from that of Apple's £4,140 LaserWriter IINTX.

To achieve the required quality of text output at an affordable price, Apple has included an INIT (Macintosh System addition) with each printer which will allow the Mac to use TrueType fonts. These fonts, which will be a central part of System 7.0, the Mac's new operating system due out in mid-May, are scalable to any size without loss of quality. Previously, to achieve such quality Apple would have had to include a PostScript interpreter with the printers – a move which would have added several hundred pounds to the prices.

## PRINTER SPECIFICATIONS

Appearing extremely similar to Apple's Personal LaserWriter SC, the LS is in fact a radically different machine inside. Apple has developed numerous custom chips to reduce the amount of hardware required to drive the machine, which has meant that the Personal

LaserWriter LS sells for just over half the cost of the SC, previously Apple's cheapest laser printer.

The printer is based on the 4 pages-per-minute, 300 dpi (dots per inch) Cannon LBP-LX printer engine, which is found in many lower-cost laser printers. It comes with an integral 50-sheet paper tray, with an option to add a 250-sheet paper cassette if required, and contains 512K of RAM. Connection to the Macintosh is via the printer port.

The StyleWriter is based on Cannon's BJ10e bubblejet engine, which produces 360dpi. Rather slower than the LaserWriter LS, the StyleWriter will output one page per minute when printing in 'best' mode, or two when printing in the lower-quality 'faster' mode. It comes with a sheet feeder, although this can be removed.

## BUBBLEJET vs DOT MATRIX: WHICH ONE WINS?

Dot matrix printers have been around for a long time. They work by a ribbon with an array of pins. The ribbon hits the paper, and leaves ink in the shape of the pins. Early dot matrix printers had a 9x9 array of pins, which produced characters that were readable, but nothing like the quality of a typewriter. To combat this,

manufacturers added more pins, until many of today's dot-matrix printers are 24-pin – that is, they have a 24x24 array of pins, which give much higher quality.

By contrast, bubblejet printers (sometimes called inkjet) work by squirting tiny bubbles of ink directly at the paper. An immediate effect of this is

that a bubblejet printer is far more quieter than a dot-matrix, as there is nothing bashing against the paper. But the quality of bubblejet printers is also often better than that of dot matrix machines.

To compare the difference for yourself, we have included here output from a 24-pin dot matrix printer, alongside

two print samples from the Apple StyleWriter – one from the machine in 'faster' mode, and one when it was printing in 'best' mode. Also for comparison is output from a laser printer. You will see that, while the laser printer output is unquestionably the best, the bubblejet output is extremely close.

The quick brown  
The quick brown  
The quick brown  
The quick brown  
The quick brown  
The quick brown  
The quick brown  
The quick brown  
The quick brown  
The quick brown  
The quick brown  
The quick brown

• Text printed on a 24-pin dot matrix printer.

The quick brown fox jump  
ferret. The quick brown f  
lazy ferret. The quick bro  
the lazy ferret. The quick  
over the lazy ferret. The c  
jumps over the lazy ferret  
fox jumps over the lazy f  
brown fox jumps over the

The quick brown fox jum  
ferret. The quick brown  
the lazy ferret. The quic  
jumps over the lazy ferr  
brown fox jumps over t

• Samples from the Apple StyleWriter: "Faster" mode (left) "Best" mode (right)

The quick brown fox jum  
ferret. The quick brown f  
lazy ferret. The quick bro  
the lazy ferret. The quick  
over the lazy ferret. The c  
jumps over the lazy ferre  
fox jumps over the lazy f  
brown fox jumps over the

The quick brown fox jum  
ferret. The quick brown  
the lazy ferret. The quic  
jumps over the lazy ferr  
brown fox jumps over t

The quick brown fox jumpe  
jumped over the lazy ferret.  
ferret. The quick brown fox  
brown fox jumped over the  
over the lazy ferret. The qu  
The quick brown fox jumpe  
jumped over the lazy ferret  
ferret. The quick brown fox  
brown fox jumped over the  
over the lazy ferret. The qu  
The quick brown fox jumpe  
jumped over the lazy ferret  
ferret. The quick brown fox

• The best: text printed on a laser.





The StyleWriter cannot be networked – it may only be connected to one Mac at a time. And unfortunately it cannot print in 'background' mode – other Apple printers have been able to print while the user does something else on the machine, whereas the StyleWriter holds up other tasks until output is complete. However, most Mac users will happily live with this small inconvenience in return for the quality the machine produces; especially when the price is taken into consideration.

### MAC PRINTER OPTIONS

Until now, owners of Macs who wanted a reasonable-priced printer had two options: either go for the ImageWriter II, a 9-pin dot matrix not exactly beloved by many of its owners, or buy a third-party printer. The problem with going for the second option was that many printer manufacturers did not provide driver software for the Mac, so owners were stuck with public domain solutions, which were often full of bugs or did not use the printer to its full potential.

With the release of its two new printers, though, Apple has solved the problem. People who were considering purchasing a dot-matrix printer will be just as happy – or happier – with the StyleWriter. It costs about the same as a 24-pin dot-matrix, provides quality at

least as good and has the advantage that it is an official Apple product, so upgrades to things like the System software are guaranteed to work with it. On the other hand, anyone considering connecting a third-party laser printer to their Mac would do well to look seriously at the Personal LaserWriter LS. Again it has the advantage of being an official Apple product, and at a £920 you would be hard pressed to find a cheaper laser printer of similar quality (or, indeed, at all!).

Apple's printer prices now look like this:

ImageWriter II	£400
StyleWriter	£345
Personal LaserWriter LS	£920
Personal LaserWriter SC	£1,564
Personal LaserWriter NT	£2,295
LaserWriter IINT	£3,565
LaserWriter IINTX	£4,140

Apple says that it will not discontinue the ImageWriter II, since some people need a dot matrix printer for printing multi-part stationery. The Personal LaserWriter SC, on the other hand, is likely to be discontinued in the near future as it offers no benefits over the Personal LaserWriter LS. ■

### POSTSCRIPT AND TRUETYPE:

Fonts come in two sorts: bitmapped and outline. A bitmapped font is stored inside the computer as a series of discrete points which make up each character. So when a character is increased in size, all that happens is that the points are scaled up, resulting in a 'jagged'-looking character.

Outline fonts, on the other hand, are stored as mathematical descriptions of the curves and lines which make up a character's shape. So when increased in size, outline fonts do not exhibit the jaggedness of bitmaps; they are always sharp.

Until TrueType came along, the standard outline font format was known as PostScript. For high-

quality fonts on the Mac, PostScript was the only option; which meant that its inventors, Adobe, could license the technology for large sums of money. One of the most lucrative licensing deals was for the PostScript interpreter inside printers which converted the mathematical description of characters, graphics and so on into the final dots which make up the printed page. Although some clone interpreters appeared, many printer manufacturers – Apple included – preferred to use the official Adobe version, paying the company hundreds of pounds for each printer sold.

Partly for this reason, Apple decided to create its own outline

font format, known as TrueType. Along the way, the company has been joined by a number of others, including Microsoft, which will be including the ability to display TrueType fonts in version 3.1 of the IBM-PC user interface Windows.

At present, the vast majority of fonts available for the Mac are PostScript, but most font manufacturers such as Bitstream, Monotype and Linotype have said that they will be adapting their fonts to TrueType format. In fact, Bitstream has committed to converting the whole of its library; the Times and Helvetica fonts which come with the new printers have been designed by the company.

### THE BEST SYSTEM?

A Macintosh Classic combined with a StyleWriter now costs around £1,005 for the single floppy machine, £1,375 for the 40Mb hard drive option. This makes it a viable proposition as a starter machine both for small businesses and for those who'd previously have had an IBM PC-compatible and printer for home use.

As a comparison, we specified and costed out two systems: a Mac Classic with StyleWriter and a PC-AT with a dot-matrix printer.

To get the same type of performance from a dot-matrix printer as from the StyleWriter, a 24-pin machine would be needed; a trawl through a recent copy of *Express* came up with an average price of around £255 for a 24-bit printer from 'box shifters'. Then add the cost of an 80286 PC (some would say that a fairer comparison would be an 80386); again, a flip through the magazine came up with a rough average of about £980 (with a mono monitor and a hard disk). Throw Windows 3 in with that and your set up will set you back somewhere in the region of £1,300 – almost the same as for the Mac system.

Software, it is true, tends to cost slightly more for the Mac than for PCs, but there are some excellent public domain and shareware packages available; the chances are that you will be able to find everything you need for less than £100 in shareware fees – this figure will be roughly the same for either the Mac or the PC.

So, you could either have a PC with a 24-pin dot matrix printer or a Mac Classic with a StyleWriter, for almost identical costs. Now who says that the Mac is overpriced...?

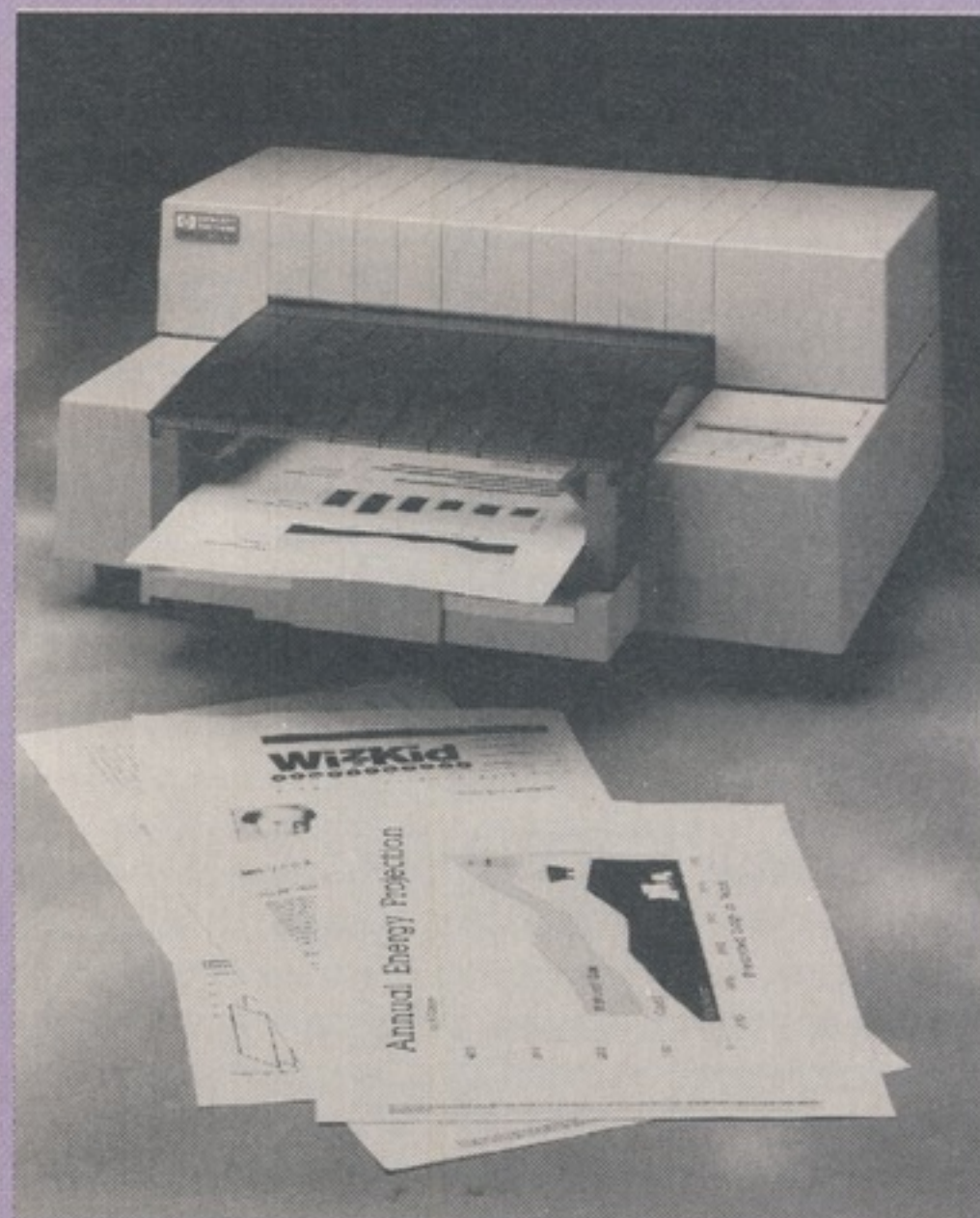
For those who are convinced that the Mac's not for them, there are a number of options available to owners of other computers. For starters, have a look at these:

● Canon BJ10e/BJ130e. The BJ10e costs £397, while the BJ130e, which is larger, faster and has a longer quoted lifetime, costs £915.

● Epson SQ850/SQ2250. The SQ850 is an 80-column machine which costs £885. The 132-column SQ2250 sells for £1,150.

● Hewlett-Packard Deskjet. This is a 300dpi machine, which sells for £690.

Remember that the prices quoted are recommended retail prices; you will probably be able to get the printers for less if you shop around.



● The Hewlett-Packard Deskjet. This 300dpi machine costs £690 – £340 less than Apple's StyleWriter.



# COMPETITION

WIN! WIN! WIN! WIN! WIN!

# WIN FAX KIT WORTH £500

**YES!** You could be the lucky winner to take home £500 worth of communications hardware and software. **AND** seven runners up can win the software to produce quality faxes. So read on...

**T**he Fax/modem card is the SRM 2496 from Insta-Com. Made in the US and distributed by Datatech in the UK, it offers group 3 Fax capability up to 9600baud. The modem runs at 2400baud and is controlled by the extended Hayes set, the industry standard for modem communications. The software to drive the modem is the US program COMit and this works from a helpful menu screen and on disk help files.

Fax jobs are done at up to 9600baud corresponding to the group 3 protocol, but running four times as fast as the original group three specification. The supplied software allows you to set the fax up in the background and carry on working on your PC. Incoming faxes can be viewed on the screen in the form of a pop up menu. There are also facilities to capture files from applications files and send them directly as a fax. The card costs £199 from Datatech on 0533 460181.

*FaxBuilder* allows you to customise and design your own faxes. The what you see is what you get interface means that what you see on the screen is the same as the one you send by fax and a template directory allows you to store your 20 most used images.

*FaxBuilder* is compatible with many word processors and allows direct import. The program is easy to use and uses typefaces that are selected for their legibility via fax transmission. A library of 25 clip art images and four fonts can rescale without losing detail or clarity.

*FaxBuilder* can also import graphics images in UWI, PCX and TIFF formats. *FaxBuilder* costs £45.95 from LTS on 0386792617.

Now all you have to do is answer the questions! Put your answers on the coupon and fax it to *Express* on 0225 482018 by no later than March 30.

**1) The Protocol used for Group 3 Faxes is:**

- a) Modified Huffman Code
- b) Modified Starch
- c) Pascal
- d) Reverse Polish notation

**2) The book by Desmond Bagley in which a train set turns out to be a computer is called:**

- a) The Train Set
- b) The Computer
- c) The Friend
- d) The Enemy

**3) Which companies with the phone numbers 0533 460181 and 0386 792617 are a great place to get communications hardware and software?**

- a) British Rail and Sealink
- b) Mothercare and Playboy
- c) Dataflex and LTS
- d) Mercury and Telecom

**4) What fluid was used in the first generation of faxes?**

- a) Crude Oil
- b) Solvent
- c) Gravy
- d) Milk

**5) Fax is ..**

- a) An abbreviation of FACTS
- b) A posh person's pronunciation of something rude
- c) An abbreviation of FACSIMILE
- d) German for image

## FAX/MODEM CARD COMPETITION

Name .....

Address .....

1 ☐ 2 ☐ 3 ☐

4 ☐ 5 ☐

The worst job I ever had was .....

**COMPUTER  
EXPRESS**

EDITOR • Andy Storer  
NEWS EDITOR • Colin Campbell  
TECHNICAL EDITOR • Keith Pomfret  
PRODUCTION EDITOR • Julie Tolley  
ART EDITOR • Amanda Cook  
SUPPLEMENTS EDITOR • Tim Smith  
EDITORIAL ASSISTANT • Dave Golder

**CONTRIBUTORS:**

• Adam Waring • Hadyn Fitz-Williams  
• Jason Holborn • Mary Branscombe  
• Ken Coumarin • Sean Masterson  
• Andy Hutchinson • Steve Patient  
• Lucy Smith • Robin Alway • Ian Wrigley  
• Steve Gold • Rod Lawton • Neil Jackson

CIRCULATION DIRECTOR • Sue Hartley  
AD MANAGER • Helen Kirkhope

**SENIOR AD EXECUTIVE:**

• Cheryl Beesley  
AD EXECUTIVES: • Tim Partridge  
• Siobhan Kennedy-Coyne  
AD PRODUCTION • Frances Wasem  
AD TYPESETTING • Terry Mackereth  
PUBLISHER • Graeme Kidd  
ABC audited circulation July-December 1990: 20,204 copies per week  
We regret we cannot enter into any personal correspondence. Technical enquiries should be addressed to Tech Tips at the address below. While every care is taken in the preparation of *New Computer Express*, Future Publishing cannot be held responsible for the consequences of any errors that may occur.

• Subscriptions: The Old Barn, Somerton, Somerset (0458) 74011  
• Printed by Redwood Press, Melksham, Wilts  
• Distributed in UK and Eire by MMC Ltd (0483 211222), rest of world by Comag (0895 444055)

© Future Publishing Ltd  
30 Monmouth Street, Bath BA1 2BW  
Tel: 0225 442244  
Fax: 0225 482018

E-mail and on-line:  
CIX @ astorer  
( or conference 'Express' )  
GOLD @ 84:TXT152  
PRESTEL @011112623

## 'Your guarantee of value'

This magazine comes from Future Publishing, a company founded just six years ago, but which now sells more computer magazines than any other publisher in Britain. We offer:

**Better advice.** Our titles are packed with tips, suggestions and explanatory features, written by the best in the business.

**Stronger reviews.** We have a cast-iron policy of editorial independence, and our reviews give clear buying recommendations.

**Clearer design.** You need solid information fast. So our designers highlight key elements by using charts, diagrams, summary boxes, annotated photographs, etc.

**More reader interaction.** We draw strongly on readers' contributions, resulting in the liveliest letters pages and the best reader tips. Buying one of our magazines is like joining a nationwide user group.

**Better value for money.** More pages, better quality: magazines you can trust.

**Future  
PUBLISHING**

Home of Britain's finest computer magazines.

Amstrad Action • 8000 Plus • PC Plus  
Amiga Format • ST Format  
New Computer Express • Your Sinclair  
Commodore Format • Sega Power  
Amiga Power • Amiga Shopper  
MacPublishing

# COMING NEXT THURSDAY

## Virtual Worlds

We peep into the pioneering work being undertaken by Autodesk

## The Sharpest Colour

Sharp's 8500 PC – a colour VGA portable costing a cool 8 grand!

## As Quick as a Brick

The machine that's building new horizons

## PLUS

- Hot news
- Front End
- Games Week
- Whole Wired World
- Tech Tips
- Circuit City
- Express On-line
- Express Mail
- The PD Column
- Programming
- Columns for: Amiga, Archimedes, CPC, C64, Macintosh, PC, Spectrum and ST

## AND

**WIN! Two brand new Brother printers**





# CITIZEN

# PRINTERS

Silica presents some great offers on the award winning range of high quality dot matrix printers from Citizen. Each Citizen printer is built in the UK to exacting standards, ensuring superb reliability and a very high quality of output. Our confidence in the quality of Citizen printers is such that we are pleased to offer a unique two year guarantee with every printer. Plus, if you purchase your Citizen printer from us, we will give you a Silica Printer Starter Kit (worth £29.95), **FREE OF CHARGE!**

**FREE DELIVERY**  
Next Day - Anywhere in the UK mainland

**FREE STARTER KIT**  
Worth £29.95 - With every Citizen printer from Silica.

**FREE COLOUR KIT**  
Worth £39.95 - With Swift 9 and Swift 24 printers.

**2 YEAR WARRANTY**

Silica offer a 2 year warranty (including the printer head) with every Citizen printer purchased from Silica.

**WINDOWS 3.0**  
Free Windows 3.0 driver - In the Silica Starter Kit.

**FREE HELPLINE**  
Technical support helpline open during office hours.

**MADE IN THE UK**  
Citizen printers are manufactured to high standards.

**144 CPS DRAFT 9 PIN**



## CITIZEN 120D+

The Citizen 120D+ is one of the UK's best selling printers. It has a stylish appearance and excellent features and performance for such an inexpensive printer. The 120D+ is available with either a serial or parallel interface and is an ideal first printer.

- 9-pin Printhead
- Print Speed 144cps Draft
- 30cps NLQ
- Epson & IBM Graphics Emulation
- Pull Tractor & Bottom Feed
- Superior Graphics - 240x216dpi
- **FREE Starter Kit**

RRP ..... £228.85  
STARTER KIT ..... £29.95  
**TOTAL RRP: £258.80**  
SAVING: £110.45  
**SILICA PRICE: £148.35**

**£129**

+VAT = £148.35

**144 CPS DRAFT 24 PIN**



## CITIZEN 124D

The award winning Citizen 124D brings high quality 24-pin dot matrix printing within every computer users reach. It is the ideal choice where high quality printing is required at a budget price.

- 24-pin Impact Printer
- Print Speed 144cps Draft
- 2 LQ Fonts (48cps)
- 8K Buffer
- Epson, IBM & NEC P6+ Emulation
- Advanced Paper Parking
- Superior Graphics - 360x360dpi
- **FREE Starter Kit**

RRP ..... £320.85  
STARTER KIT ..... £29.95  
**TOTAL RRP: £350.80**  
SAVING: £144.95  
**SILICA PRICE: £205.85**

**£179**

+VAT = £205.85

**192 CPS DRAFT 9 PIN**



## SWIFT 9 - COLOUR!

The Citizen Swift 9 is perfect for those who require high quality dot matrix black or colour printing at a budget price. The print quality of Swift 9 rivals that of other manufacturer's 24-pin models.

- 9-pin Impact Printer
- Print Speed 192cps Draft
- 3 NLQ Fonts (48cps)
- 8K Buffer
- Epson & IBM Graphics Emulation
- Advanced Paper Parking
- **FREE Starter Kit**
- **FREE Colour Kit**

RRP ..... £309.35  
STARTER KIT ..... £29.95  
COLOUR KIT ..... £39.95  
**TOTAL RRP: £379.25**  
SAVING: £161.90  
**SILICA PRICE: £217.35**

**FREE! COLOUR KIT**

**£189**

+VAT = £217.35

**192 CPS DRAFT 24 PIN**



## SWIFT 24 - COLOUR!

The Citizen Swift 24 is one of Europe's best selling printers and has won awards including Printer Of The Year 1990. Its rapid print speed, quality and black or colour options, make it a natural choice.

- 24-pin Impact Printer
- Print Speed 192cps Draft
- 4 NLQ Fonts (64cps)
- 8K Buffer
- Epson, IBM & NEC P6+ Emulation
- Advanced Paper Parking
- **FREE Starter Kit**
- **FREE Colour Kit**

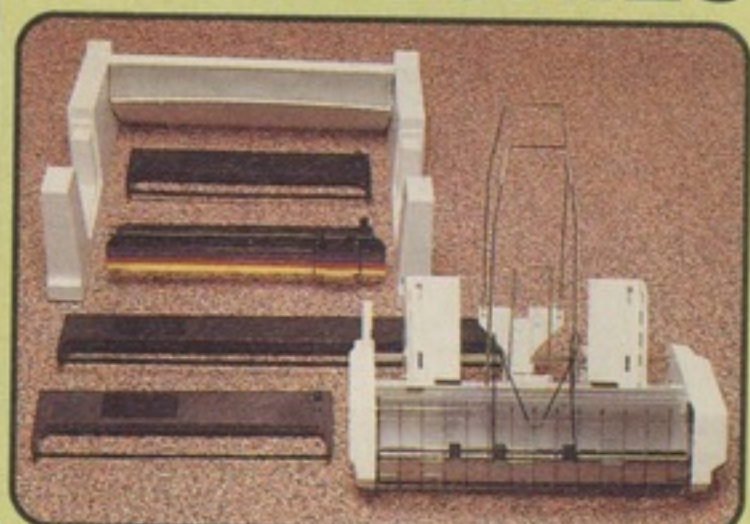
RRP ..... £419.75  
STARTER KIT ..... £29.95  
COLOUR KIT ..... £39.95  
**TOTAL RRP: £489.65**  
SAVING: £191.80  
**SILICA PRICE: £297.85**

**FREE! COLOUR KIT**

**£259**

+VAT = £297.85

## PRINTER ACCESSORIES



### SHEET FEEDERS

PRA 1200	120D	£74.75
PRA 1215	124D/Swift 9/24	£96.60
PRA 1228	124D/Swift 9/24	£46.00

### SERIAL INTERFACES

PRA 1189	120D+	£62.10
PRA 1209	Swift 9/124D	£34.50
PRA 1709	Swift 24	£28.75

### PRINTER STAND

PRA 1242	124D/Swift 9/24	£26.95
----------	-----------------	--------

### ORIGINAL RIBBONS

RIB 3502	120D/Swift 9 Black	£4.03
RIB 3924	124D/Swift 24 Black	£5.18
RIB 3936	Swift 9/24 Colour	£17.25

### COLOUR KITS

PRA 1236	Swift 9/24	£39.95
----------	------------	--------

All prices include VAT and Free delivery.

## FREE! STARTER KIT

Every Citizen printer from Silica, comes complete with the Silica Printer Starter Kit, including everything you need to get up and running with your new printer immediately, **FREE OF CHARGE!**

- 3 1/2" Dual Format Disk with Amiga & ST Printer Drivers
- 3 1/2" Disk with Drivers for Microsoft Windows 3
- 2 Metre Parallel Printer Cable
- 200 Sheets of High Quality Continuous Paper
- 200 Continuous Address Labels on Tractor Feed
- 5 Continuous Envelopes on Tractor Feed

If you already own a printer, and would like a Silica Printer Starter Kit, you may order one (ref: KIT 5000) for the special Silica price of £24.95 - £5 off RRP!

NORMAL RRP  
**£29.95**



## SILICA SYSTEMS OFFERS YOU

- **FREE OVERNIGHT COURIER DELIVERY:** On all hardware orders shipped in the UK.
- **TECHNICAL SUPPORT HELPLINE:** Team of PC technical experts at your service.
- **PRICE MATCH:** We normally match competitors on a "Same product - Same price" basis.
- **ESTABLISHED 12 YEARS:** Proven track record in professional computer sales.
- **£13M TURNOVER (with 60 staff):** Solid and reliable with maintained growth.
- **BUSINESS/EDUCATION/GOVERNMENT:** Volume discounts available for large orders.
- **SHOWROOMS:** Demonstration and training facilities at our London & Sidcup branches.
- **THE FULL STOCK RANGE:** All of your PC requirements from one supplier.
- **FREE CATALOGUES:** Will be mailed to you with offers and software/peripheral details.
- **PAYMENT:** By cash, cheque and all major credit cards.

Before you decide when to buy your new printer, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after you have made your purchase, when you may require additional peripherals or software, or some technical help and advice. And, will the company you buy from contact you with details of new products? At Silica Systems, we ensure that you will have nothing to worry about. Silica Systems is one of the UK's leading independent computer dealers and provides a quality service to users at home, in education and in business throughout the nation. Silica have been established for over 12 years, and have an annual turnover of £13 million. With our unrivalled experience and expertise, we can now claim to meet our customers requirements with an understanding which is second to none. But don't just take our word for it. Complete and return the coupon now, for our latest Free literature on the Citizen printer range and begin to experience the "Silica Systems Service".

**SILICA SYSTEMS**



<b>MAIL ORDER:</b>	1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX	Tel: 081-309 1111
Order Lines Open:	Mon-Sat 9.00am-6.00pm	No Late Night Opening
<b>LONDON SHOP:</b>	52 Tottenham Court Road, London, W1P 0BA	Tel: 071-580 4000
Opening Hours:	Mon-Sat 9.30am-6.00pm	No Late Night Opening
<b>LONDON SHOP:</b>	Selfridges (1st Floor), Oxford Street, London, W1A 1AB	Tel: 071-629 1234
Opening Hours:	Mon-Sat 9.30am-6.00pm	Late Night: Thursday until 8pm
<b>SIDCUP SHOP:</b>	1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX	Tel: 081-302 8811
Opening Hours:	Mon-Sat 9.00am-5.30pm	Late Night: Friday until 7pm

To: Silica Systems, Dept NCE-0391-54, 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX

**PLEASE SEND CITIZEN PRINTER INFORMATION**

Mr/Mrs/Ms: ..... Initials: ..... Surname: .....

Address: .....

Postcode: .....  
Tel (Home): ..... Tel (Work): .....

Company Name (if applicable): .....

Which computer(s), if any, do you own? .....

E&OE - Advertised prices and specifications may change - Please return the coupon for the latest information.



# GO WILK!



No ugly wart-nose is gonna make a monkey out of me! But that's just what that witch has done - one minute I'm the mighty Toki and the next I'm having breakfast delousing my armpits, I can't walk a step without tripping over my knuckles and, oh, there's an overhanging vine - time to swing out sister! But my broken heart is going ape. My beloved Miho (I can't wait to share a banana with her) has been kidnapped and somehow I've got to regain my manhood - until then I'm just swingin' in the rain!

The arcade sensation by Fabtek Inc. is now available for your micro.

**ocean**

OCEAN SOFTWARE LTD, 6 CENTRAL STREET, MANCHESTER M2 5NS.  
TEL: 061-832 6633, FAX 061-834 0650

SPECTRUM . AMSTRAD CARTRIDGE  
COMMODORE CARTRIDGE  
ATARI ST . AMIGA